

Roberto Reisinger
91-92 Book II

Pl 16 648 259
Yb Fly 10 RT Humm
Wasp ① BBHC ①(11)
Soda Wren ① Social Fly ①
D. Antbird ①(11)
RBB ①
W. Blackbird ①
Yellow Warbler RT Salt ①

| 746 | 7020 |
|----------------|----------------|
| Sp. 100 Wren 1 | Wren 1 |
| 1 BFL 100 | Yell Wren ① |
| M. Blackbird ① | B. Grosbeak ① |
| Brown Jay ① | Gr. Grosbeak ① |
| Chick 100 | Pr. Humming 1 |
| 155 Sparrow 1 | BC Wren ① |
| Aviala 1 | Trop Mocking 1 |

| | | |
|----------------|------|---------|
| Kentucky h | 10.8 | 10L |
| W. Bush Wren | 10.7 | 16L |
| 2 Sp. Br. Wren | " | " |
| Dickc. Audubon | 10.8 | 18L |
| Bushkill h | 11.4 | 8L |
| 2 Chachalaco s | 11.3 | 7L 4/12 |
| Kentucky | | |
| Knobbed h | 11.9 | 6R |
| Wilson h | 12.5 | 8L 3/10 |
| Ovenbird h | 12.2 | 20R |
| Verdant | 12.6 | 10R 1/4 |

① 15.1

| | | |
|--------------------|------|-----------|
| Wood Thrush | 13.5 | 15R |
| Thrushlike Manakin | 14.1 | 10L |
| W. Bush Wren | 14.7 | 9L 2/10 |
| Ch. Wren - s | 14.9 | 2L |
| Lesser Greenlet | 15.1 | 20L |
| KB Longear s | 15.4 | 6L |
| Sulph. Kingfisher | 15.8 | 10L 7/8 |
| Dickc. Audubon | 15.5 | 0L 9/6 |
| Cap Fly h | 15.7 | |
| Mayfly h | 15.8 | 18R |
| Redstart | 16.1 | 17L |
| W. Bush Wren s | 17.3 | 18L 10/21 |
| Scrub Wren s | 17.5 | 12L 5/21 |
| White Wren s | 17.7 | 3R |

| | | |
|-----------------|-------|------------|
| O.B. Euphonia h | 15.5 | 17L |
| Sp. Br. Wren | 19.1 | 20R |
| Bushkill h | 19.4 | 20R |
| W. Bush Wren | 19.2 | 7L |
| Bushkill h | 19.7 | 6R |
| W. Bush Wren | 19.7 | 13R |
| Verdant | 20.6 | 17L |
| 2 W. Gr. S | 17.2 | |
| W. Gr. S | 17.2 | |
| 3 x 36 1/11 | | |
| 2 x 6 1/11 | | |
| 5 x 12 1/11 | | |
| 3 x 9 1/11 | | |
| 2 x 5 1/11 | | |
| 2 x 12 1/11 | | |
| 3 x 6 1/11 | 10/11 | |
| 5 x 9 1/11 | | |
| 2 x 15 1/11 | | |
| 5 x 15 1/11 | | |
| 2 x 20 1/11 | | |
| 5 x 15 1/11 | | |
| 5 x 22 1/11 | | |
| 2 x 15 1/11 | | |
| 5 x 20 1/11 | | |
| 3 x 8 1/11 | 19/11 | |
| 15 x 10 1/11 | | |
| 2 x 6 1/11 | | |
| 5 x 12 1/11 | | |
| 5 x 15 1/11 | | |
| 3 x 20 1/11 | | |
| 3 x 6 1/11 | | |
| 4 x 10 1/11 | | |
| 4 x 20 1/11 | | |
| Spider | 5 | br 1/2 |
| Dragonfly | 4 | br 1/2 |
| Katydids | 4 | br 1/2 |
| Dragonfly | 5 | br 1/2 |
| Spider | 4 | br 1/2 |
| W. Gr. S | 4 | br 1/2 |
| Spider | 5 | orange 1/2 |
| Dragonfly | 4 | br 1/2 |
| Spider | 6 | br 1/2 |
| Dragonfly | 4 | br 1/2 |
| Dragonfly | 3 | br 1/2 |
| Coleopt | 8 | br 1/2 |
| Mantis | 12 | br 1/2 |
| Sp. Wren | 3 | br 1/2 |
| W. Gr. S | 18 | br 1/2 |

635-915

011224 735 745 810

12 Oct '01 SORUP PORTLAND Clancy

| | | | |
|--------------------|----------|-----|--|
| Trop. Kingbird L | 19.202 | | |
| WFL L | 19.6 8L | | |
| WFL L | 19.7 8L | | |
| South House Wren L | 19.2 5L | | |
| Catb L | 19.8 15R | | |
| Can. Gold Pheo L | 19.8 11L | 3/6 | |
| Robin L | 19.1 13L | | |
| LTP L | 19.3 10L | 9/1 | |
| Wren L | 19.5 20L | | |
| Catb L | 18.6 16L | | |
| Catb L | 18.8 11L | 3/6 | |
| WFL L | 18.5 12R | | |
| No. Oriole L | 18.3 10L | 8/8 | |
| Yellow Warbler L | " " | 6/6 | |
| LOPL S | 18.2 20L | 2/2 | |
| Catb L | 17.4 9R | | |
| WFL L | 17.1 5R | 3/6 | |
| WFL L | 18.1 5R | 1/6 | |
| Phoebe L | 18.2 12L | | |
| Yellow Warbler L | 17.8 19R | 9/1 | |
| WFL L | 17.7 6R | 1/1 | |
| Catb L | 16.8 10L | | |
| WFL L | 16.3 7R | | |
| Catb L | 16.3 1R | | |
| WFL L | 16.6 5L | 1/1 | |
| Catb L | 16.2 3R | 1/1 | |

College Blowing in Sunday grass
Western strategy
Blowing

Wren L

14.8 5R

| | | | |
|---------------------|----------|------|--|
| WFL L | 14.7 6L | | |
| WFL L | 14.8 9L | | |
| WFL L | 14.7 11L | | |
| WFL L | 14.2 10L | 10/1 | |
| 5 WFL L | 13.8 6L | | |
| Yellow Warbler L | 14.1 2L | 9/1 | |
| 2 WFL L | 13.7 11L | 4/2 | |
| 2 WFL L | 9.1 2R | 10/1 | |
| WFL L | 14.1 2L | 9/1 | |
| 12 WFL L | 12.8 9R | | |
| WFL L | 15.4 10R | 9/1 | |
| WFL L | 12.8 9R | | |
| 3 WFL L | 12.3 9R | | |
| Nashville Warbler L | 12.1 9R | 3/4 | |
| Catb L | 11.7 6R | | |
| WFL L | 10.9 11L | | |
| WFL L | 10.5 3R | | |
| Catb L | 9.9 1R | | |
| Catb L | 9.9 14L | | |
| WFL L | 9.5 1L | | |
| WFL L | 9.4 10R | | |
| 2 WFL L | 7.5 16R | | |
| WFL L | 7.3 8R | | |
| WFL L | 7.0 7L | | |
| Catb L | 7.1 7L | | |
| WFL L | 7.1 17L | | |
| WFL L | 7.1 6R | | |
| WFL L | 6.1 16R | | |
| WFL L | 5.9 0.0 | 1/3 | |
| WFL L | 5.1 20R | | |
| WFL L | 4.2 18L | | |
| WFL L | 4.5 4L | | |
| WFL L | 3.9 7L | 0/3 | |
| WFL L | 3.2 7R | | |
| WFL L | 3.7 15L | | |
| WFL L | 7.9 8R | 1/1 | |
| WFL L | 2.5 10L | | |
| WFL L | 2.6 4L | | |
| WFL L | 1.3 6R | | |

C

• long strip after all
in the

| | | | |
|------------------|----------|----------|------|
| 6. Pioneer Altam | 1.9 | 16R | 23 |
| CPT ad 2 | 1.0 | 5R | 1 |
| 2 WTL | | " | |
| Black-throated S | 1.3 | 6L | 9/12 |
| CPT 2 | 1.4 | 3L | |
| B. R. W. S | 1.5 | 17R | |
| Catbird S | 1.3 | 14R | |
| Zebra S | 0.7 | 7R | |
| LEFL S | 1.3 | 2R | 2/1 |
| PSFL S | 0.7 | 9L | |
| W. D. S | 0.1 | 15L | |
| LEFL h | 0.7 | 15L | |
| BUGS 28 (15/11) | | | |
| 1/2 WTL | Devent 2 | 0R | in |
| 2/2 WTL | Spide 2 | 0R | at |
| 5/11 | 7m | | |
| 7/11 | | | |
| LEFL | 10 | Over 100 | 1 |
| CPT | 11 | Top 100 | 5 |
| Catbird | 10 | | 10 |
| W. D. S | 2 | | |
| Black-throated | 8 | | |
| Yellow Warbler | 9 | | |
| W. D. S | 1 | | |
| Black-throated | 10 | | |
| W. D. S | 1 | | |
| Black-throated | 1 | | |
| W. D. S | 2 | | |

| | | | |
|-------------|------|-----|-----------|
| 11 Dec | 199 | 12 | 20/20 |
| Resistant S | 19.5 | 17L | |
| W. B. W. S | 19.9 | 10R | |
| W. D. S | 18.8 | 7L | 9/14 |
| W. D. S | 18.5 | 7R | |
| W. D. S | 18.3 | 6L | |
| W. D. S | 17.9 | 18L | |
| W. D. S | 17.7 | 14R | 20/23 |
| B. W. S | 17.5 | 16L | 17/22 |
| B. W. S | 16.8 | 6R | 23/25 leg |
| W. D. S | 17.1 | 15L | |
| W. D. S | 17.2 | 12L | |
| W. D. S | 17.1 | 16L | 1/14 |
| W. D. S | " | 3L | 8/10 |
| W. D. S | " | 5L | 8/10 |
| 2 W. D. S | 16.9 | 6R | 17/23 |
| W. B. W. S | 16.9 | 6R | 0.5/1 |
| W. D. S | 16.7 | 8R | |
| W. D. S | 16.7 | 13R | 15/23 |
| W. D. S | 16.5 | 12L | 0.5/10 |
| W. D. S | 16.6 | 10L | |
| W. B. W. S | 16.3 | 5R | |
| W. D. S | 15.9 | 0.0 | 19/22 |
| B. W. S | 15.9 | 20R | 16/20 |
| W. D. S | 15.8 | 19L | |
| W. D. S | 15.8 | 18L | |
| W. D. S | 15.8 | 10L | |
| W. D. S | 15.5 | 8L | |
| W. D. S | 15.2 | 8R | 13/16 |
| W. D. S | 14.9 | 11L | |
| W. D. S | 14.9 | 5L | 8/20 |
| W. D. S | 14.6 | 4L | 9/15 |
| W. D. S | 14.6 | 1 | |
| W. D. S | 14.8 | 15R | |
| W. D. S | 13.7 | 9L | |
| W. D. S | 12.6 | 3L | |
| W. D. S | 12.6 | 2R | |
| W. D. S | 11.2 | 4L | 4/15 |
| W. D. S | 10.0 | 1R | 2/15 |

And about the birds in Bush 1864

Long-billed Thrasher 100 2R

| | | | |
|-------------------|-----|-----|-------|
| 1 BFL S | 9.8 | 7R | 1/8" |
| W. Siskin | 9.5 | 5R | 5/10 |
| W. Bluebird | 9.6 | 2R | |
| For. Hummer h | 9.1 | 10L | |
| Mourning h | 8.6 | 5R | |
| W. Wren | 8.4 | 8L | 24/25 |
| 2 L. Wren h | 8.3 | 12L | |
| Alt. W. Siskin | 7.5 | 9R | 2D |
| 2 No. Oriole | | 8L | 21 |
| Dusky Cap Flyc. | | 5L | 19 |
| Blue-bird Flyc. | | 7L | 8/22 |
| Royal Flyc | 7.5 | 8L | 20 |
| Redstart | 7.3 | 17R | 10/22 |
| Blue-winged | 7.2 | 17R | " |
| 2 Mourning Vireos | 7.3 | 12R | 16/22 |
| W. Wren h | 7.1 | 17L | 3/25 |
| Black-ch. W. Flyc | 7.5 | 16L | |
| 1 BFL | | | |
| 2 L. Wren h | | | |
| BT Flyc | | 13L | 7R |
| S. H. W. Flyc | | | |
| W. Bluebird | | 6/5 | |
| 10 Flyc | | | |
| House Finch | | | |
| Scrub Cap Flyc | | | |
| W. Wren h | | | |
| 2 L. Wren h | | | |

After breakfasting in
Linn. present in
11 birds in 100 ft S

| | | |
|----------------------|-----|-----|
| 10 Vireo | 6.8 | 17R |
| 10 Wren | 6.9 | 5R |
| RT Flyc | 6.8 | 14R |
| BT W. Flyc | 6.8 | 15R |
| W. Oriole h | 7.1 | 15R |
| Long-billed Thrasher | 4.9 | 13R |
| Mourning | 5.1 | 18R |
| Redstart | 4.2 | 2R |
| W. Wren h | 3.8 | 5L |
| W. Wren | 2.2 | 6L |
| W. Wren | 2.7 | 5L |
| 2 Sp. Wren h | 2.3 | 9L |
| V. Wren h | 2.2 | 1L |
| W. Wren h | 2.2 | 8L |
| 2 L. Wren h | 2.1 | 11L |
| W. Wren h | 2.1 | 6L |
| " | 1.3 | 7L |
| W. Wren h | 0.9 | 6R |
| GO W. Flyc h | 1.4 | 12L |
| Redstart | 7 | |
| W. Wren | 4 | |
| W. Wren | 4 | |
| BT W. | 3 | |
| Wood Thrush | 3 | |
| Ch. Siskin | 1 | |
| Black Wren | 1 | |
| Mourning | 6 | |
| No. Oriole | 3 | |
| Long-billed Thrasher | 1 | |
| BT Wren | 1 | |
| W. Wren h | 1 | |
| | 41 | |

Shelby Woods 197102

Sunday
 Sun. of 9.10

12 Dec Actual

| Species | Weight (g) | Length (mm) | Wing (mm) |
|--------------------------|------------|-------------|-----------|
| Red-bellied Noddy | 10.9 | 10R | |
| Red-bellied Noddy | 10.9 | 2R | 24/25 |
| Red-bellied Noddy | 10.4 | 9L | 8/9 |
| No. White-throated Noddy | 19.3 | 7L | 1/9 |
| White-bellied Noddy | 19.1 | 5L | |
| White-bellied Noddy | 19.1 | 20R | |
| White-bellied Noddy | 19.1 | 10R | |
| White-bellied Noddy | 19.2 | 13R | |
| White-bellied Noddy | 19.2 | 0.0 | |
| White-bellied Noddy | 19.1 | 6L | 1/8 |
| White-bellied Noddy | 18.9 | 7R | |
| White-bellied Noddy | 18.9 | 10R | |
| 2 Red-bellied Noddy | 19.3 | 9L | |
| Sl. H. T. & Pigeon | 10.9 | 5L | 1/1 |
| 3 Red-bellied Noddy | 18.8 | 12L | |
| Common Noddy | 18.6 | 6L | |
| White-bellied Noddy | 18.7 | 9R | |
| Buff-bellied Noddy | 18.5 | 5L | 1/9 |
| White-bellied Noddy | 18.6 | 6L | |
| Red-bellied Noddy | 18.8 | 14L | 1/10 |
| Red-bellied Noddy | 18.7 | 9R | |
| Check 5th wing | 18.6 | 4L | 1/9 |
| White-bellied Noddy | 18.5 | 10L | 1/8 |
| White-bellied Noddy | 18.1 | 1R | " |
| White-bellied Noddy | 18.3 | 5R | 1/8 |

Kendall's Club

6.231

| Species | Weight (g) | Length (cm) | Wing (cm) | Tail (cm) | Notes |
|--------------------|------------|-------------|-----------|-----------|------------------|
| Red-capped Manakin | 17.0 | 51 | | | |
| Gr. backed Sparrow | 17.9 | 1712 | | | |
| Y.O. Finch | 18.1 | 3R | | | |
| Spade-billed | 17.8 | 4L | | | |
| Mayer | 17.9 | 51 | | 2/8 | |
| Black-billed Gull | 17.2 | 71 | | 7/10 | |
| 3. Red-billed Salt | 17.3 | 10.20L | | 2/25 | |
| GO Wader | 17.2 | 7412 | | 6/9 | |
| Long-billed Wood | | | | | Long-billed Wood |
| BROWN | 17.2 | 18R | | 7/6 | |
| Mayer | 17.1 | 61L | | | |
| Ch. Gull | 16.8 | 21 | | 13/2 | |
| 1. Red-billed | 6.5 | 11R | | 9/10 | |
| Yellow-billed | 17.3 | 101 | | | |
| Black-billed | 16.7 | 81 | | 7/7 | |
| BT Wader | 14.5 | 12R | | | |
| Small Gull | 16.6 | 81 | | 7/7 | |
| S. W. Gull | 16.5 | 3R | | | |
| Red-billed | 16.6 | 3L | | 2/10 | |
| Black-billed | 16.3 | 2R | | 7/9 | |
| 2. Red-billed | 16.4 | 17L | | | |
| Thinned | 16.2 | 12L | | | |
| Y.O. Gull | 16.2 | 7R | | 3/10 | |
| W. Gull | 16.1 | 101 | | 8/10 | |
| D. Gull | 16.1 | 51 | | | |
| W. Gull | 15.4 | 212 | | 7/10 | |
| GO Wader | 15.3 | 41 | | 1/2 | |
| Sc. W. Gull | 15.1 | 8L | | | |
| Red-billed | 15.9 | 9 | | 5/2 | |
| W. Gull | 15.6 | 11R | | 4/12 | |
| GO Wader | 14.9 | 3R | | 3/11 | |
| Sc. W. Gull | 15.1 | 3R | | 6/11 | |
| 15. Red-billed | 15.1 | 8L | | | |
| Long-billed | | | | | Long-billed |
| W. Gull | 15.1 | 71 | | | |
| W. Gull | 14.8 | 61 | | 1/12 | |
| W. Gull | 14.4 | 61 | | 1/12 | |
| W. Gull | 14.4 | 18 | | 1/11 | |

BOSQUE 20

Pt 23 75m NB 100m 200
 Little Hermit 1 Sunny Cloudy 655
 Green Jay 1/1
 YBFL 17m Maggy 1
 LB Gnatcatcher (1) Lesser Greenlet (1)
 Kentucky (1) ABCW Wren (1)
 Benthall (1) Dusky Cap Fly (1)
 Longhorn Falcon 1, G. G. W. Fly 1

Pt 24 NE 150m 715
 Little Hermit 1 Throat Blue Man (1)
 Wood Thrush (1) G. G. Flyc (1)
 YBFL 10m Redstart (1)
 Juncos 1 Pink Mania (1)
 Lesser Greenlet (1) Benthall (1)
 Spadebill (1) LB Gnatcatcher (1)

Pt 25 NE 150m 736
 W. B. Wren (1) Calliope (1)
 G. G. Flyc (1) W. B. Wren (1)
 Little Hermit (1) Pink Mania (1)
 Throat Blue Man (1)
 G. F. W. Flyc (1)
 Pt 26 at 150m 758
 Long Tail Hermit 1
 Little Hermit 11

G. G. Flyc (1) Lesser Greenlet (1)
 Pt 27 NE 150m 820
 YBFL (1) Green Jay (1)
 Little Hermit (1) Gold-fronted Woodpecker (1)

Pt 28 897
 RT Ana. Tan (1) Spadebill (1)
 2 Sp Br Wren (1) Tanager (1)
 Dot wing Antwren (1) YBFL (1)
 Long Tail Hermit (1) ABCW Wren (1)
 W. B. Wren (1) W. B. Wren (1)
~~10 Little (1)~~ B. W. Flyc (1)
 Lesser Greenlet (1) 7 Gold-fronted Woodpecker (1)
 Note: plenty of singing song, no song birds, black eye line.

14 DEC 191 POINT COUNTRY
 SC Flyc - Chertal ca Chertalio Flyc
 (C. G. W. Flyc) Flyc Chertal
 842

Spadebill (1)
 W. B. Wren (1) YBFL (1)
 Green Jay (1) Spadebill (1)
 C. F. Flyc (1) 20 Flyc (1)
 Pink Mania (1) Long Tail Hermit (1)
 B. W. Flyc (1) Social Flyc (1)
 YBFL (1)
 Pt 27 20m 858
 Social Flyc (1) Pink Mania (1)
 Spadebill (1) YBFL (1)
 C. F. Flyc (1) 20 Flyc (1)

1

[illegible]

| | | | |
|-------|---------------|---------------------------|----|
| Pl 13 | ~ 250 μ m | passive culture on | 72 |
| ... | ... | between cona line + scrub | 72 |

Song
 1 BC (1) 1
 4T (1) 1 (1)
 Seintail (1)
 Yellow Warb. (1) P
 1 B Cacique (1)
 1 B Hdwarp (1) 1 B Hdwarp (1)
 1 B Hdwarp (1) 1 B Hdwarp (1)
 1 B Hdwarp (1) 1 B Hdwarp (1)
 1 B Hdwarp (1) 1 B Hdwarp (1)
 1 B Hdwarp (1) 1 B Hdwarp (1)

| | |
|-----------------------|----------------------------|
| Pt 14 | 140m - before Baba 21/1/10 |
| Yellow Warb (1) (1) ♀ | 735 |
| Red Blackbt (1) (1) | Small 7/1/10 |
| Redst ♂ | Redst Warb |
| Variable Seed | Magpie (1) |
| Y T Oriole (1) | GB (1) |
| WCS (1) (1) | 10B Towcan (1) |

Pt 19 - Down some small hill
to Tall 2nd grade tree
structure well known. Point
spot on Tree (dbh 13cm)
to right. Play to left

Pt 20 - Tractor path veers up
left. Point land into
First big tree ~ 20m
Point spot → 2m to path. Play
on footpath

Pt 21 - Fallen shrub very
lots of vegetation
growing on it - Shrub
right in path. Point
~ 8m away from Pt 19
in canopy very growth
Point spot on tree left
path & point

Pt 22 - Cacao Plantation
Midway 25m up
from footpath ~ 15m
inside plantation.
Point spot on tree about
from point. Play
on Cacao tree

Pt 23 - In Same Place as
15m up in plantation
Point spot on tree.

not
10m
15m

Pt 24 - Tree Chimp ^{upside down}
climbed high - Point spot
2 meters off path at
edge. Point spot on
tree just up side

Pt 25 - just up from small
fallen tree in same area
low to ground. Long
vertical tree on left.
Point spot - Near freshly cut tree
in right side path

Pt 26 - 10m up from high
tree in path to left
Tree Chimp. Point spot
right at edge

LOWEST PART

Pt 27 - 100m up from Don Esteban
entrance. Point spot on tree
Play on large branch
Point on Cacao tree
low plantation

Pt 28 - 50m up from On path blue
Play spot danger. Low
2 trees in path
Point on large tree across
from path

Pt 3 - Right by start of
Don Echeverri in
Coffee grove
Bright where Pancha
drops his off
Point 15 meters inland

Pt 4 - 150m from river
from Pt 3 15m
inland 5th m
Coffee grove

Pt 5 - 150m diameter
At Edge of field
15m inland

Pt 6 - 150m along edge
of field. Near
Leymonous tree
15m in

Pt 7 - 150m At road
in path
swamp

Pt 8 - 150m In wet
shaded tree clump
Point on tree w/
white marks

Pt 9 - 135m diameter
in dense 15m diam
side trail. Point
on line along side trail

Pt 10 - 150m 15m in
Along trail canal
on left

Pt 11 - 225m at base
of large tree

Pt 12 - 150m At small
acacia at edge of
banana grove. Point
at inland base of
banana grove along
border with acacia

Pt 13 - 30m after bridge
on Cacao plant
15m in

17 DEC 2° BOSQUE

PT. 29 150 NW of pt 23

817

YBFL (1)

L.HERN (1)

WBWren (1)(1) → 1

WBEMERAI (1)

[illegible]

[illegible]

11/11/17

1. a. $\frac{1}{2}$ b. $\frac{1}{2}$ c. $\frac{1}{2}$ d. $\frac{1}{2}$ e. $\frac{1}{2}$

[illegible]

Aug 11. [2] 12. [12 Oak O. 12. 12.]

placenta 1-28-41

| | | | |
|------|-----|---|-------|
| 2022 | May | 1 | Spent |
|------|-----|---|-------|

[illegible]

| | | | | |
|---------|-----------------|------|------|------|
| Surgeon | Mr. J. H. H. H. | 1888 | 1888 | 1888 |
|---------|-----------------|------|------|------|

PT 1 - at hand number 132

1. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

[illegible][illegible]

Mon 30th June 19

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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1. The first part of the text discusses the importance of maintaining accurate records of all transactions.

2. 10. 2018

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1. The first part of the text discusses the importance of maintaining accurate records of all transactions, including sales, purchases, and expenses. It emphasizes that proper record-keeping is essential for determining the correct amount of tax liability and for defending against potential audits.

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[illegible]

A close-up of a blue-lined notebook page. A faint pencil sketch of a person's head and shoulders is visible, showing a profile view with a large, rounded head and a small neck.

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|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

Answer

[illegible]

Cloudy

23 DEC EDI (ATK) 915

[illegible]

15 頁

25

| Species | Count | Weight (g) | Length (mm) | Wing (mm) | Tail (mm) | Bill (mm) | Foot (mm) | Middle toe (mm) | Claw (mm) |
|---------------------------|-------|------------|-------------|-----------|-----------|-----------|-----------|-----------------|-----------|
| 1. <i>Alcedo viridis</i> | 1 | 12.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 2. <i>Alcedo viridis</i> | 1 | 12.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 3. <i>Alcedo viridis</i> | 1 | 12.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 4. <i>Alcedo viridis</i> | 1 | 12.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 5. <i>Alcedo viridis</i> | 1 | 13.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 6. <i>Alcedo viridis</i> | 1 | 13.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 7. <i>Alcedo viridis</i> | 1 | 13.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 8. <i>Alcedo viridis</i> | 1 | 13.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 9. <i>Alcedo viridis</i> | 1 | 13.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 10. <i>Alcedo viridis</i> | 1 | 14.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 11. <i>Alcedo viridis</i> | 1 | 14.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 12. <i>Alcedo viridis</i> | 1 | 14.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 13. <i>Alcedo viridis</i> | 1 | 14.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 14. <i>Alcedo viridis</i> | 1 | 14.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 15. <i>Alcedo viridis</i> | 1 | 15.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 16. <i>Alcedo viridis</i> | 1 | 15.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 17. <i>Alcedo viridis</i> | 1 | 15.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 18. <i>Alcedo viridis</i> | 1 | 15.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 19. <i>Alcedo viridis</i> | 1 | 15.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 20. <i>Alcedo viridis</i> | 1 | 16.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 21. <i>Alcedo viridis</i> | 1 | 16.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 22. <i>Alcedo viridis</i> | 1 | 16.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 23. <i>Alcedo viridis</i> | 1 | 16.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 24. <i>Alcedo viridis</i> | 1 | 16.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 25. <i>Alcedo viridis</i> | 1 | 17.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 26. <i>Alcedo viridis</i> | 1 | 17.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 27. <i>Alcedo viridis</i> | 1 | 17.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 28. <i>Alcedo viridis</i> | 1 | 17.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 29. <i>Alcedo viridis</i> | 1 | 17.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 30. <i>Alcedo viridis</i> | 1 | 18.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 31. <i>Alcedo viridis</i> | 1 | 18.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 32. <i>Alcedo viridis</i> | 1 | 18.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 33. <i>Alcedo viridis</i> | 1 | 18.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 34. <i>Alcedo viridis</i> | 1 | 18.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 35. <i>Alcedo viridis</i> | 1 | 19.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 36. <i>Alcedo viridis</i> | 1 | 19.2 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 37. <i>Alcedo viridis</i> | 1 | 19.4 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 38. <i>Alcedo viridis</i> | 1 | 19.6 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 39. <i>Alcedo viridis</i> | 1 | 19.8 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 40. <i>Alcedo viridis</i> | 1 | 20.0 | 70 | 95 | 15 | 12 | 10 | 10 | 10 |
| 41. <i>Alcedo viridis</i> | 1 | 20 | | | | | | | |

No. 1000 2 2500 2500 2500 2500

3 beam 12 lead 1000 1000 1000 1000

Emp. 10. P. 10. R. 10. 20 1000

24000 R. 10. 657

P. 10. M. 10. 10. 10. 10.

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P. 10. 10. 10. 10. 10. 10.

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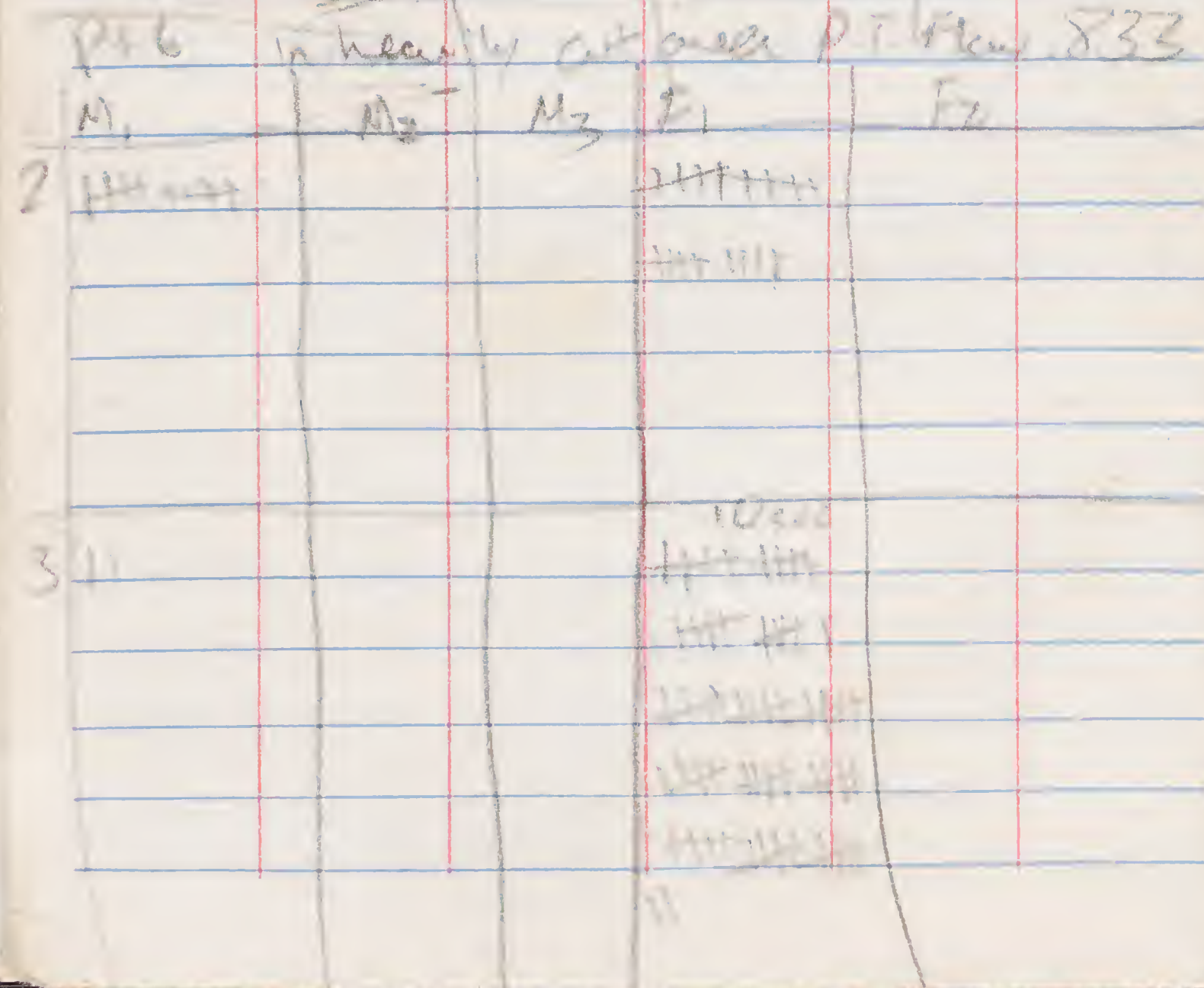
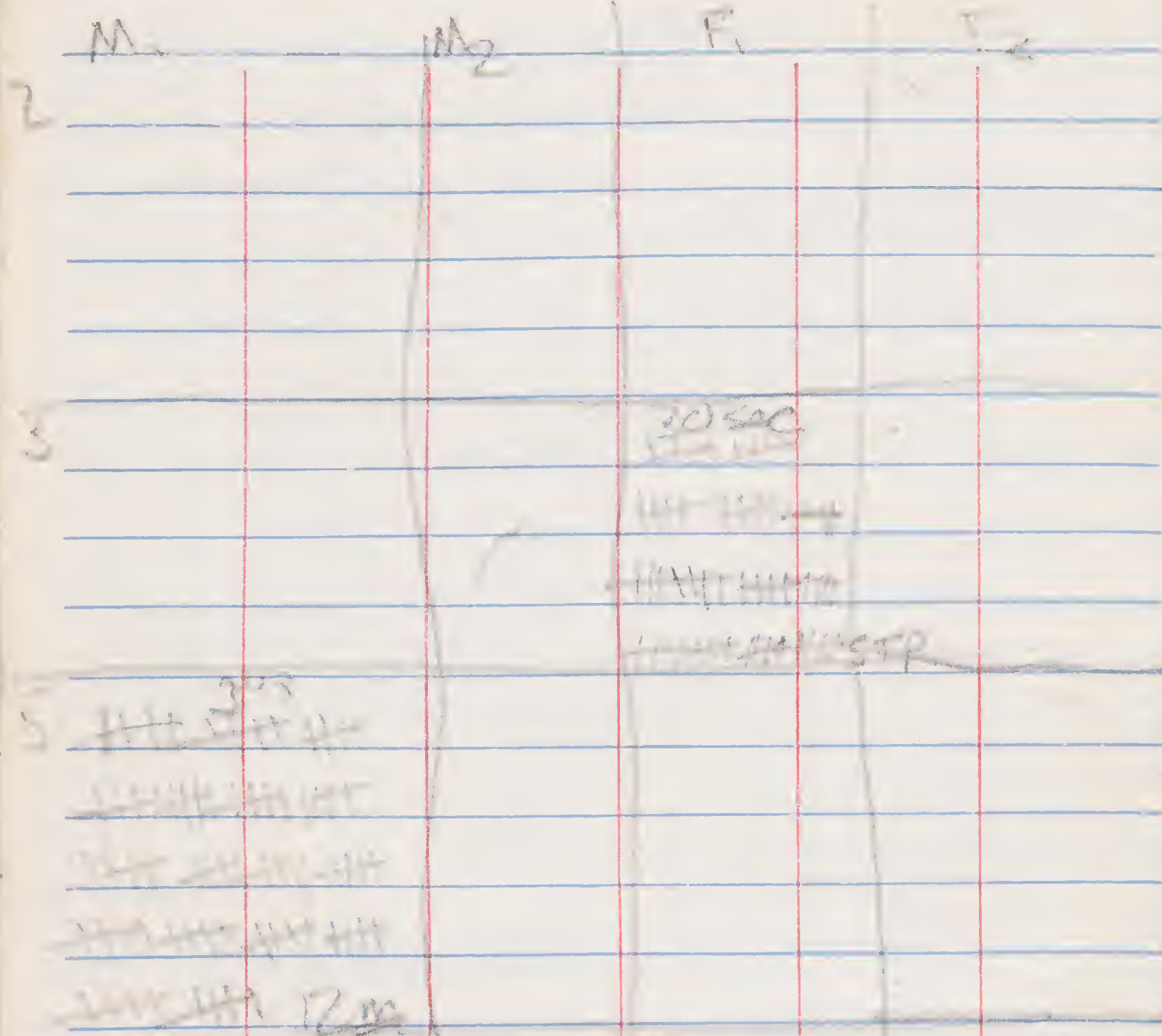
1000 1000 1000 1000 1000 1000

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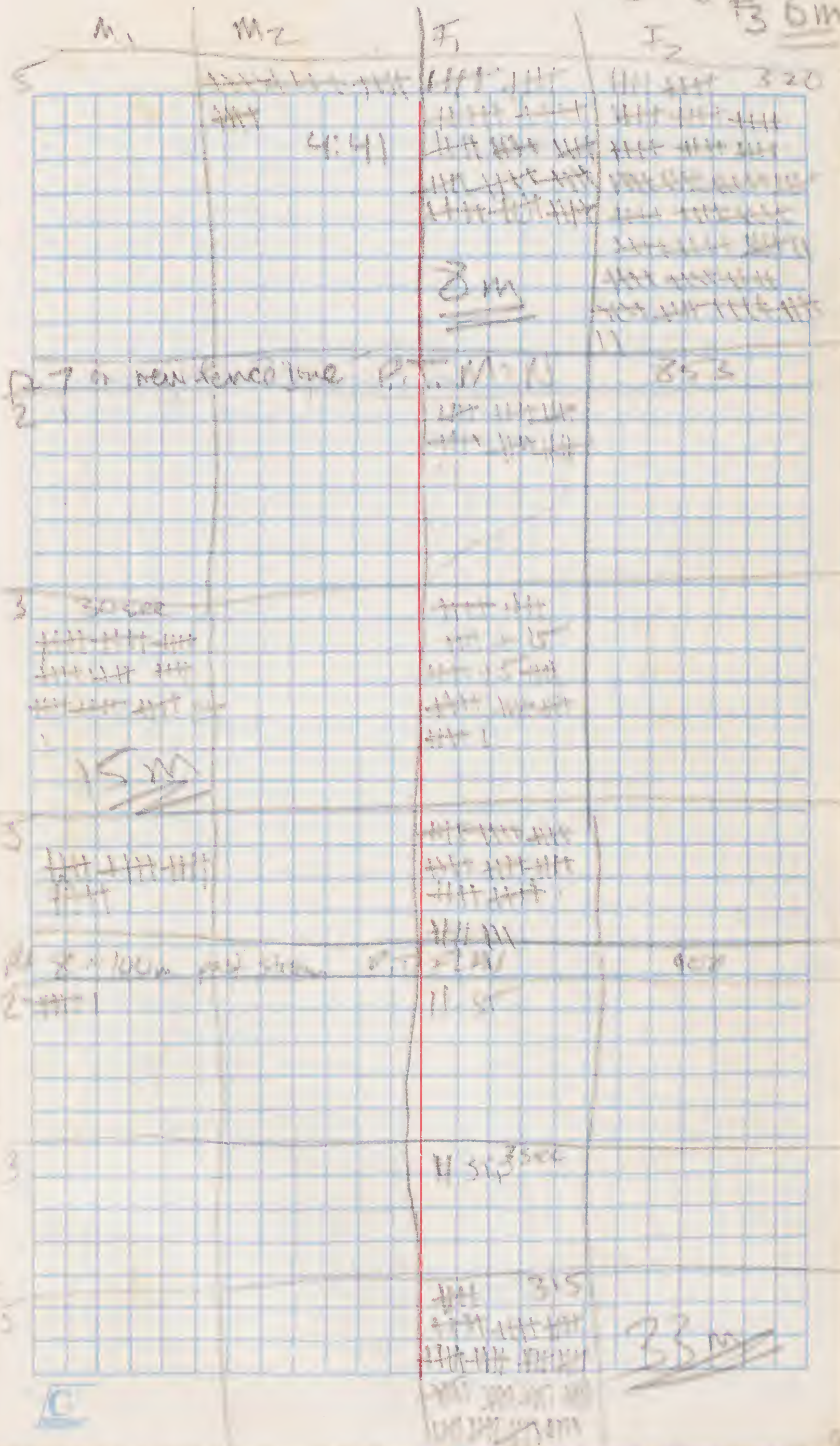
P45

P.T. Min

808



con 2 canto
in 5 min. periodo
F3 6m



1871

Decid. Decid. on 5-11-92

VEGETATION SAMPLING MUDIE'S
 Eduardo's Patreo 22 JAN 92

| 10-9 R | 8-7 R | 6-5 R |
|--------------|-------|-------|
| So 12 | 65 | 60 |
| Tg 10 | 7 | 5 |
| SS 43 | 5 | 5 |
| Ms 5 | 2 | |
| S2g 5 | | |
| T2g 50 | | |
| Bg 10 | 8 | 10 |
| Stream 5 | 5 | 5 |
| * Cleared 10 | 8 | 15 |

| 9-8 R | 7-6 R | 4-3 |
|--------------|-------|-----|
| Bg 15 | 110 | 3 |
| So 20 | 40 | 20 |
| Tg 5 | 10 | 5 |
| SS 30 | 20 | |
| Ms 5 | 5 | |
| S2g | | 15 |
| T2g 10 | | |
| * Cleared 20 | 10 | 70 |
| Sx 5 | 5 | 2 |

*Cleared = mix of slash & very short slash
 25%.

5-11

5-11 R

| | |
|----|-----|
| 50 | 25 |
| 10 | 10 |
| 18 | 12 |
| 5 | |
| 7 | |
| 40 | 110 |
| 5 | 5 |
| 5 | 3 |
| | 35 |

| 10 Forest | 23 JAN 92 | Cloudy | 708 |
|------------------|-----------|--------|-----------|
| Canthach | 21.5 | 10L | 4/12 9/22 |
| Tree Mank | 21.5 | 12L | |
| Deep Mank | 21.5 | 9L | 7/12 |
| H. Hammer | 21.6 | 7M | |
| 2. D. Hammer | 21.7 | 13R | |
| W.B.W. W. Hammer | 20.5 | 10L | |
| Check square | 21.7 | 13R | |
| Spruce Cap | 20.2 | 11L | 9/22 |
| B. Sh. Hammer | 20.1 | 18L | 9/26 |
| Green Hammer | 20.1 | 20L | |
| 2. C. Hammer | 20.2 | 20L | |
| 1. Hammer | 19.6 | 8R | 5/13 |
| W. Robin | 19.7 | 2R | 5/18 |
| 2. Hammer | 19.4 | 16R | 5/15 |
| " | 19.4 | " | |
| 1. Hammer | 19.4 | 20L | 7/10 |
| 1. Hammer | 19.3 | 18L | 6/11 |
| 1. Hammer | 19.7 | 18L | |

Washburn 40 white mgs. box

| | Wt | Length | Sex/Age |
|----------------------|------|--------|---------|
| B.C. Sandpiper h | 17.3 | 10L | 9/16 |
| W. Spadepatch h | 16.8 | 12L | 2/11 |
| Lesser Greenlet h | 15.5 | 17R | |
| P.T. Ant-Tan h | 16.6 | 14R | 7/13 |
| Nooded h | 16.2 | 10L | |
| R.T. Ant-Tan h | " | 15L | |
| Or. Bil Sp h | 15.8 | 7L | |
| W. B. Wren h | 16.1 | 20L | |
| W. B. Wren h | 15.9 | 16L | |
| W. B. Wren h | 15.5 | 11L | 9/10 |
| R.C. Man ♀ s | 14.5 | 6L | 7/11 |
| Xerops h | 14.2 | 9L | 3/15 |
| Lesser Gnatcatcher h | 14.5 | 6R | |
| C.S.W.A. h.s. | 13.7 | 18L | 10/15 |
| P.T. Ant-Tan | 13.6 | 20L | 1/11 |
| H.C. Flicker h | 13.5 | 11R | |
| R.C. Man h | 13.5 | 16R | |
| L.H. T. s | 13.5 | 1L | |
| Z. Sp. Wren h | 13.4 | 25R | |
| Scaled Warbler s | 11.7 | 14R | |
| T. Wren s | " | " | 4/12 |
| T. B. " s | " | " | |
| W.B. " s | " | " | |
| Orange Gnat s | " | " | |
| P.T. Ant-Tan s | " | " | |
| R.C. Man. h.s. s | " | " | |
| White's Man s | " | " | |

like a soldier

| Species | Count | Weight (g) | Length (mm) | Wing (mm) | Tail (mm) | Notes |
|-----------------|-------|------------|-------------|-----------|-----------|-------|
| Vireo alpestris | 117 | 202 | 9/14 | | | |
| Red Antbird | 117 | 102 | | | | |
| Red Antbird | 115 | 100 | | | | |
| Yellow Warbler | 114 | 32 | | | | |
| Blackbird | 114 | 121 | | | | |
| Green Warbler | 114 | 22 | 13/15 | | | |
| Red Antbird | 111 | 32 | 7/10 | | | |
| Red Antbird | 9.5 | 101 | | | | |
| Red Antbird | 8.5 | 32 | 7/10 | | | |
| Red Antbird | 8.1 | 22 | 11/14 | | | |
| Red Antbird | 7.9 | 11 | | | | |
| Red Antbird | 7.6 | 172 | | | | |
| Red Antbird | 7.8 | 11 | | | | |
| Red Antbird | 6.1 | 61 | 9/15 | | | |
| Red Antbird | 6.2 | 152 | | | | |
| Red Antbird | 5.5 | 22 | 19/10 | | | |
| Red Antbird | 5.5 | 11 | | | | |
| Red Antbird | 3.2 | 201 | | | | |
| Red Antbird | 3.9 | 11 | 11/15 | | | |
| Red Antbird | 3.1 | 13 | 15/12 | | | |
| Red Antbird | 3.1 | 12 | | | | |
| Red Antbird | 3.1 | 142 | | | | |
| Red Antbird | 2.6 | 171 | | | | |
| Red Antbird | 2.7 | 51 | 24/23 | | | |
| Red Antbird | 1.5 | 102 | 11/11 | | | |
| Red Antbird | 1.5 | 101 | | | | |
| Red Antbird | 0.9 | 61 | 15/12 | | | |
| Red Antbird | 0.7 | 41 | | | | |
| Red Antbird | 0.5 | 42 | 11/11 | | | |
| Red Antbird | " | " | 17/10 | | | |
| Red Antbird | 0.5 | 191 | | | | |
| Red Antbird | 0.5 | 121 | | | | |
| Red Antbird | 10 | 31 | 10 | | | |
| Red Antbird | 4 | 101 | 10 | | | |
| Red Antbird | 2.5 | 31 | 10 | | | |
| Red Antbird | 5 | 31 | 10 | | | |
| Red Antbird | 6 | 31 | 10 | | | |
| Red Antbird | 5 | 31 | 10 | | | |
| Red Antbird | 5 | 31 | 10 | | | |
| Red Antbird | 15 | 31 | 10 | | | |

C

73PL 3

| | |
|-------------|---|
| Wood Thrush | 2 |
| Hooded | 2 |
| CSWA | 4 |
| GCTL | 2 |
| Catbird | 5 |
| Mourning | 1 |
| Redstart | 1 |
| LEPL | 1 |
| Powder | 1 |
| W. Warbler | 1 |

20

11 left

7.11

| | | | | | |
|------|---------|-------------|----|-----|-----|
| 3x12 | 1111111 | Hymenoptera | 6 | 312 | 10 |
| 2x5 | 11 | C. sp. | 10 | 95 | 10 |
| 2x9 | 111 | " | 3 | | |
| 2x9 | 111 | " | | 8 | 100 |
| 1x12 | 1 | Catbird | 40 | 10 | 10 |
| 2x55 | 1 | Hymenoptera | 20 | 10 | 10 |
| 3x10 | 1 | " | 6 | 9 | 10 |
| 1x12 | 1 | Catbird | 5 | 10 | 10 |
| 3x15 | 1 | 10 | 10 | 10 | up |
| 2x10 | 1 | Spider | 5 | 10 | 10 |
| 4x10 | 1 | | | | |
| 5x11 | 1 | | | | |
| 4x15 | 1 | | | | |

Folage ht profile 2° Forest

550R 1, 9, 10
 1, 5, 6, 9, 11, 13
 R - 1, 11, 12, 14
 1, 5, 7, 8, 11, 14
 R 0.5, 6
 500 0.5, 2, 9
 R 1, 2, 4, 10, 18
 0.5, 14
 R + 1, 13
 1, 5, 8, 27
 450R - 1, 3, 9, 8, 14
 - 1, 2
 R - 1, 2, 5, 11-17
 - 1, 14
 R 1, 10, 11
 400 0.5, 1, 3, 11, 12, 15
 R 1, 2, 4, 9, 10, 11
 1, 2, 10, 12
 R 1, 9, 14
 1, 2, 3, 6, 9, 10, 14
 350R 1, 3, 4, 10, 12
 1, 4, 10
 R 1, 2, 7, 8
 1, 9
 R 1, 8, 13
 300 0.5, 1
 R 0.5, 12
 0.5, 2, 5, 6
 R 0.5, 2, 3
 1, 2, 5, 9, 13
 250R 1, 3, 4
 0.5, 11, 14
 R 1, 2, 9
 1, 4, 10
 R 0.5, 12

200 +, 3
 R - 1, 2, 3
 0.5, 3, 4, 11, 17
 R 0.5, 7, 13
 0.5, 6
 150R 0.5, 2
 0.5, 3
 R - 1, 3, 7, 10, 20
 - 1, 10, 11, 22
 R 0.5, 2, 10
 100 0.5, 6
 R 0.5, 4
 1, 7, 9
 R - 1, 7, 9
 1, 2, 4, 8
 50R 0.5, 11
 1, 2, 15
 R 1, 3
 - 1, 2, 3, 10
 R +
 0 +

560 - 1, 2, 4, 5, 14
 - 1, 6, 9, 11
 1, 3, 8
 + 1, 10, 12
 6 1, 7, 12
 1, 2, 7, 8, 13
 0.5, 9, 12
 + 1, 6, 8, 9
 + 1, 11, 13
 65 + 1, 8, 11
 + 1, 4, 9, 21
 1, 4, 7, 10, 15
 + 1, 4, 6, 20
 + 1, 3, 5, 8
 70 + 1, 3, 5, 10, 14
 0.5, 5, 10, 11
 + 1, 3, 10, 12
 750 +, 5, 10

Poly Sundry
→ Sundry

655 - 940
cool
low

6 Du P. P. P. 23 CAN

| | | | |
|----------------|------|-----|-------|
| Cut h | 19.5 | 7L | |
| B. B. S | 19.4 | 1R | 1/1 |
| Cut h | " | 4R | 0-1 |
| 2nd P. B. h | 19.9 | 8R | |
| W. B. h | 19.2 | 7R | 2/2 |
| Red h | 19.1 | 5R | 1/1 |
| Cut b s | 19.7 | 2R | |
| Sc. P. P. h | 19.4 | 7R | |
| Th. B. S. P. h | 19.4 | 7R | 1/1.5 |
| Cut h | 18.6 | 4L | |
| Cut b h | 19.7 | 6R | |
| Cut b h | 18.8 | 10R | |
| " S. h | 18.6 | 14L | 0-1/1 |
| 2 V. B. L | 18.2 | 10L | |
| Cut h | 17.9 | 14L | |
| 2 B. S. h | 16.8 | 10L | 1/1.5 |
| Cut h | 16.5 | 2R | |
| Cut h | 15.8 | 9R | |
| S. P. h | 15.1 | 5L | |
| Cut h | 15.3 | 6L | |
| O. B. h | 15.6 | 12L | |
| V. B. h | | 10 | |
| V. B. h | 15.8 | 0-1 | Schz |
| V. B. h | | 8 | |
| V. B. h | | 8 | |
| V. B. h | 15.5 | 12L | |

2-15/16 B. S. h 0-10
low

Amoraleu sp

2-15/16 P. P. h 15.5 20R

| | | | |
|----------|------|-----|-------|
| V. B. h | 15.5 | 6R | 1/2 |
| Sp. B. h | 15.5 | 12L | |
| W. B. h | 15.1 | 4L | 3/4 |
| V. B. h | 13.8 | 7L | 1/4 |
| V. B. h | 11.7 | 20L | |
| V. B. h | | 13R | |
| Cut h | " | 22L | |
| Sp. B. h | 11.3 | 19L | |
| Sp. B. h | " | 24R | |
| Cut h | " | 7L | |
| Green h | 9.7 | 8R | |
| V. B. h | 8.5 | 6R | 6/7 |
| Cut h | 8.1 | 11R | |
| W. B. h | 8.1 | 28R | 1/2 |
| V. B. h | 8.2 | 7R | |
| Cut h | 7.4 | 6L | |
| Cut h | 6.6 | 8R | |
| Cut h | 5.7 | 0R | |
| Cut h | 5.7 | 12R | 0-1/2 |
| Cut h | 4.5 | 17R | |
| " | 2.8 | 3L | |
| P. P. h | 3.9 | 14L | 2/11 |
| W. B. h | 0.2 | 16R | 1/2 |

| | |
|----------|----|
| Cut h | 6 |
| 1st B. h | 1 |
| W. B. h | 3 |
| Red h | 2 |
| Cut h | 10 |
| V. B. h | 4 |
| O. B. h | 1 |
| B. B. h | 1 |
| V. B. h | 1 |
| V. B. h | 1 |
| V. B. h | 5 |
| Man h | 5 |

20
85
90
- 2.8, 15
+ 1.5, 11
+ 1.5, 12
+ 1.4, 5, 9
- 1.4, 12
- 1.2, 12
+ 1.4, 2
+ 1.2, 4, 15
+ 1.4, 6
+ 1.5, 8, 13
+ 0.5, 7-10
- 1.5, 7

C

$-7, 8, 11$
 $-5, 17$
 $-8, 12$
 $0.5, 13$
 $45 \quad 0.5, 9$
 $0.5, 7, 12$
 $+7, 8, 12$
 $-7, 9$
 $0.5, 2, 7-9$
 $100 \quad 1, 8, 9$

$- , 8, 12, 13$
 $1, 3, 11, 12$
 $1, 14, 15$
 $7, 8-12$
 $105 + , 7, 12, 13 \quad 145$
 $+ 7, 8, 10-13$
 $+ , 5, 8$
 $1, 3, 5, 6, 9$
 $- , 2, 6-8$
 $110 - , 3, 7, 13 \quad 150$

This image shows a full page of graph paper. It features a light blue background with a fine grid of darker blue lines. A single vertical red line runs down the center of the page, creating two equal-width columns. The paper appears slightly aged or off-white. There are some faint, dark smudges or marks scattered across the surface, particularly near the top edge. No text or other markings are present on the page.

VINES

GAPS 70

| | | | | | |
|--------|----------------|------|----------|--------|-----------------------|
| 22-21R | 4- | 9-8R | 1- | 22-21R | 10 |
| L | 4- | | 1- | L | 40 |
| 21-20R | 2- | 8-7R | 1- | 20-19L | 5 |
| | 3- | | 1- | 19-18L | 5 |
| 20-19R | 1- | 7-6R | - | 18-17R | 15 |
| | 2- | | - | 17-16L | 25+10 ^{290%} |
| 19-17R | 1 ⁺ | 6-5R | - | 17-16R | 10 |
| | - | | - | 15-14R | 10 |
| 18-17R | 1 ⁺ | 5-4R | - | 14-13R | 15+25 |
| | 3 ⁺ | | 1- | 11-10R | 15+35 |
| 17-16R | 2- | 4-3R | - | 10-9R | 50 |
| | 3 ⁺ | | 1- | 10-9L | 5 |
| 16-15R | 1- | 3-2R | - | 9-8R | 10+5 |
| | - | | - | 9-8L | 5 |
| 15-14R | - | 2-1R | - | 8-7R | 25 |
| | 1- | | 1- | 8-7L | 10+15 |
| 14-13R | - | 1-0R | - | 7-6R | 5 |
| | - | L- | | L | 15+5 |
| 13-12R | - | GAPS | | 6-5R | - |
| | - | 2-1L | 15+10+10 | L | 10 |
| 12-11R | 2- | R | 15 | 5-4R | 30 |
| | 2- | 1-0L | 40+50 | L | 40 |
| 11-10R | 1- | 1-0R | 60 | 4-3R | 5+5 |
| | 3- | | | L | 35 |
| 10-9R | 1- | | | 3-2R | 30 |
| | 1- | | | L | - |

9-7-1960
 9-15-1960
 River side forest 21 JAN

| | | | |
|--------------------------|------|-----|-------|
| White-throated Sparrow h | 19.9 | 8L | |
| White-throated Sparrow h | 19.5 | 17L | |
| White-throated Sparrow h | 19.9 | 17L | |
| White-throated Sparrow h | 19.8 | 9L | 7/15 |
| White-throated Sparrow h | 19.7 | 6L | 7/11 |
| White-throated Sparrow h | 19.7 | 20L | |
| White-throated Sparrow h | 19.2 | 5R | 1/16 |
| White-throated Sparrow h | 19.3 | 20R | |
| White-throated Sparrow h | 18.5 | 17L | |
| White-throated Sparrow h | 18.9 | 3R | 16/16 |
| White-throated Sparrow h | 18.7 | 15R | 13/18 |
| White-throated Sparrow h | 18.5 | 79L | |
| White-throated Sparrow h | 17.5 | 12L | |
| White-throated Sparrow h | 17.2 | 7L | 9/19 |
| White-throated Sparrow h | 17.1 | 8L | |
| White-throated Sparrow h | 16.7 | 16R | 3/15 |
| White-throated Sparrow h | 17.5 | 19L | |
| White-throated Sparrow h | 16.8 | 0.0 | 10/15 |
| White-throated Sparrow h | 16.8 | 7R | 7/15 |
| White-throated Sparrow h | 16.8 | 10L | |
| White-throated Sparrow h | 16.6 | 17L | 3/18 |
| White-throated Sparrow h | 16.4 | 13L | 9/20 |
| White-throated Sparrow h | " | 10L | 2/26 |
| White-throated Sparrow h | 16.5 | 16R | 5/17 |
| White-throated Sparrow h | 16.2 | 10R | |
| White-throated Sparrow h | 16.5 | 15L | |
| White-throated Sparrow h | 16.3 | 9L | 7/13 |
| White-throated Sparrow h | 16.5 | 8L | 7/13 |
| White-throated Sparrow h | 15.4 | 9 | 8/12 |
| White-throated Sparrow h | 15.5 | 18R | 7/20 |
| White-throated Sparrow h | 15.9 | 10L | |
| White-throated Sparrow h | 15.2 | 8L | |
| White-throated Sparrow h | 15.1 | 17L | |
| White-throated Sparrow h | 15.1 | 16L | |
| White-throated Sparrow h | 14.7 | 3R | 8/28 |
| White-throated Sparrow h | 14.2 | 6R | 5/23 |
| White-throated Sparrow h | 14.1 | | |
| White-throated Sparrow h | 14.2 | 10L | |
| White-throated Sparrow h | 14.7 | 13L | |

| | | | |
|----------------|------|-----|-------|
| L. Humm | 13.7 | 1L | |
| Redstart | 12.9 | 12 | 1/22 |
| S. Flycatcher | 12.3 | SR | 3/20 |
| Low bill | | SR | 2/20 |
| Maggie | 11.8 | 10L | 3/15 |
| Redstart | 12.1 | 3L | 2/12 |
| Wood Thrush | 11.3 | 10R | 9/90 |
| Maggie | 10.5 | 9L | |
| Dickcissel | 10.7 | 10L | |
| 2. Sp. Wren | 10 | 8L | |
| Green St Vireo | 23 | | |
| Booned Antsh | 9.7 | 14L | |
| Y.T. Vireo | 10.2 | 20L | 1/25 |
| Green Parula | | | |
| Doc. Antsh | | | |
| Bl. Sh. Tan | 12 | | |
| Y.B.C. | 8 | | |
| W.B. Emerald | 9.8 | 4L | 2/5 |
| Ruby Crbl | 9.7 | 11L | |
| W.T. Robin | 9.1 | 10L | |
| 32 Chest. Grp | 9.1 | 8 | 23/16 |
| L.T. Humm | 9.3 | 4L | |
| W.B. Wren | 9.3 | 13L | |
| Sp. Cap | 8.8 | 12L | |
| 3. Wren | 8.7 | 11L | 3/27 |
| Wood Thrush | 8.7 | 17L | |
| W.B. Wren | 8.6 | 17R | |

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| GC. Wren | 8.4 | 10L |
| Wren | 8.3 | 20R |
| GC. Wren | | |
| 2 Wren | 8.5 | 16R |
| 2 Wren | 8.6 | 12R |
| L. Wren | 7.8 | 3L 8/2 |
| Wren | 7.5 | 2L |
| Wren | 7.5 | 13R |
| Wren | 6.7 | 11L 2/10 |
| 2 Wren | 6.4 | 13R |
| Wren | 6.2 | 10L |
| Wren | 5.7 | 12L |
| Wren | 5.2 | 15R |
| Wren | 3.9 | 5L |
| Wren | 3.3 | 10R |
| Wren | 3.5 | 11L |
| Wren | 3.4 | 7L |
| Wren | 2.9 | 20R |
| Wren | 0.9 | 15L |
| Wren | 1.1 | 10L 7/18 |
| Wren | 0.9 | 19R |
| Wren | 0.8 | 10R |
| Wren | | 20R |
| Wren | 1.3 | 10L 7/21 |
| BUGS | 1 R | 10L |
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MERRY CHRISTMAS

| | | | |
|-----|----------------|------|----|
| P-2 | M ₁ | 3:30 | |
| | M ₂ | 4:15 | |
| P-3 | M ₁ | 4:20 | 6m |
| P-4 | M ₁ | 2:30 | |
| P-5 | M ₁ | 3:5 | |
| 110 | M ₂ | | |
| | | 3 | |
| | | 5 | |
| | | 9 | |
| | | 17 | |
| | | 3 | |
| | | 5 | |
| | | 11 | |
| | | 5:55 | |

110 45 sec
3 sec
M 3 11 11

| | | |
|--|--------------|--------|
| M ₂ | 4:40 | |
| Look up song of CA Col. W. P. R. B. M. | | |
| Selling 1g | | |
| - hot mess fern | | |
| - 5 poles | | |
| River ponds & wood bed 9-130 | | |
| USLAND | FORREST | 29 JAN |
| 655-940 | (Rain water) | Cloudy |
| 110 L | 0.4 | 13R |
| 2 Sp. Wren | 0.4 | 15L |
| YF Euphonia | 0.2 | 11R |
| 1st W. Wren | 0.2 | 13R |
| 1st W. Wren | 0.3 | 10R |
| 1st W. Wren | 0.3 | 11R |
| 1st W. Wren | 1.1 | 12R |
| 1st W. Wren | 1.1 | 10R |
| 1st W. Wren | 1.3 | 12R |
| 1st W. Wren | 1.7 | 18R |
| 1st W. Wren | 1.4 | 16R |
| 1st W. Wren | 1.4 | 11L |
| 1st W. Wren | 1.6 | 6R |
| 1st W. Wren | 1.7 | 1R |
| 1st W. Wren | 1.8 | 20L |
| 1st W. Wren | 2.1 | 14L |
| 1st W. Wren | 2.3 | 11L |
| 1st W. Wren | 2.6 | 13L |
| 1st W. Wren | 2.5 | 7L |
| 1st W. Wren | 2.5 | 15L |
| 1st W. Wren | 3.3 | 2R |
| 1st W. Wren | 3.5 | 11L |
| 1st W. Wren | 3.9 | 7R |
| 1st W. Wren | 3.4 | 14L |
| 1st W. Wren | 3.7 | 8L |
| 1st W. Wren | 3.8 | 15L |

| | | | | |
|----------|-----------|----|------|-----|
| 4/25 I | Small | 3 | br | up |
| 4/25 I | Worm | 3 | gr | Lb |
| 1/4 I | "Worm" | 6 | br | Lb |
| 4/25 I | Spider | 20 | wh | |
| 5/23 II | Small | 3 | br | |
| 5/23 I | Orthopt | 2 | 100% | lt |
| 4/25 II | Spider | 7 | gr | Lb |
| | Spider | 2 | wh | th |
| | " | 2 | br | as |
| | Kahuna | 4 | gr | Lb |
| | Reptile | 2 | lt | Lb |
| <hr/> | | | | |
| 6/17 I | Spider | 3 | br | one |
| 5/27 I | Millipede | 11 | br | lt |
| 3/12 III | "Worm" | 9 | " | lt |
| 5/22 II | Kahuna | 5 | gr | Lb |
| 4/25 III | Spider | 2 | lt | Lb |
| 3/20 II | " | 5 | br | Lb |
| 3/6 I | Dipt | 3 | wh | Lb |
| 4/8 II | Orthopt | 15 | gr | Lb |
| 4/12 II | Spider | 3 | br | Lb |
| 4/16 I | Hemipt | 4 | red | Lb |
| 2/1/21 | " | 3 | gr | Lb |
| 5/19 I | Spider | 1 | br | Lb |
| 11/20 I | Worm | 1 | gr | Lb |
| 5/25 I | | | | |
| 2/1 I | | | | |
| 6/25 I | | | | |

Many - gathering in garden slow

4/25 I 31 - 92 640-1005

| | | | |
|----------------------|-----|----|----------------|
| Brown Jay | 0.1 | GR | 1/25 |
| Red-bellied Nuthatch | 0.1 | GR | 1/8 |
| Red-bellied Nuthatch | 0.1 | GR | 1/8 |
| Barn Swallow | 0.1 | GR | 2/9 |
| R.B. Sparrow | 0.2 | GR | 1/9 |
| Unidentified Warbler | 0.1 | GR | |
| Wilson Warbler | 0.1 | GR | |
| GR Sparrow | 0.1 | GR | 2/2 June 25/27 |
| 25/25 Sparrow | 0.1 | GR | |
| Warbler | 1.2 | GR | |
| Lightbulb Warbler | 0.6 | GR | |
| 1/2/21 | 1.2 | GR | |
| Novelty Warbler | 1.2 | GR | |
| 1/2/21 | 1.3 | GR | |
| 2/2/21 | 1.2 | GR | |
| Redstart | 1.2 | GR | 13/27 |
| Warbler | 1.4 | GR | |
| 2/2/21 | 0.8 | GR | 10/25 |
| Warbler | 0.7 | GR | 8/12 |
| 1/2/21 | 1.2 | GR | 21/27 |
| Tropical Parula | 1.2 | GR | |
| 1/2/21 | 1.6 | GR | |
| OR Sparrow | 1.3 | GR | 22/27 |
| Shrike | 1.5 | GR | |
| Green Heron | 1.4 | GR | 20/27 |
| Green Heron | 1.3 | GR | 1/8 |
| SC Sparrow | 1.4 | GR | |
| 1/2/21 | 1.5 | GR | |
| Northern Oriole | 1.3 | GR | 20/27 |
| 1/2/21 | 1.3 | GR | |
| Brown Warbler | 1.3 | GR | 13/27 |
| Blue Warbler | 1.4 | GR | 14/27 |
| Song Sparrow | 1.6 | GR | |
| Blue Warbler | | GR | |
| 1/2/21 | 1.9 | GR | |
| 1/2/21 | 1.6 | GR | |
| 1/2/21 | 1.2 | GR | |

Feeding birds and insects
making

| | | | |
|------------------|----|-----|-------|
| Tanager S | 25 | 12R | 1/12 |
| Dusky Cap Fly S | 25 | 13R | 2/12 |
| 4/21 Euphonia h | 25 | 13L | 16/25 |
| CSNA h | 31 | 4L | 15/16 |
| Wood Thrush h | 31 | 9L | 7/21 |
| RP Ant Thrush h | 32 | 5L | |
| W. C. Warbler S | 37 | 5R | |
| Redstart S | 42 | 14R | 19/13 |
| Toucan S | 44 | 16R | 20/22 |
| 10 Flyc S | 44 | 17L | |
| Long-tail Gnat h | 44 | 14R | |
| 10 Flyc | 45 | 7L | 5/12 |
| Dusky Ant h | 45 | 3R | 15/12 |
| 2 Sp. Warbler | 46 | 6R | Can. |
| W. Flyc h | 48 | 11R | |
| W. Flyc h | 51 | 1R | 2/3 |
| 2 D. Flyc h | 53 | 15R | |
| W. Flyc h | 59 | 5L | |
| 2 Sp. Warbler h | 58 | 7R | |
| Slender B. Fly h | 62 | 1L | |
| L. T. Hummer S | 62 | 0.0 | |
| Mal. B. Fly h | 65 | 10L | |
| 2 D. Flyc h | 66 | 1L | 1/1 |
| W. Flyc S | 67 | 20L | 1/1 |
| L. T. Hummer h | 65 | 5R | |
| L. Hummer h | 68 | 6R | |
| L. T. Hummer S | 72 | 1L | |

in the air

| | | | |
|-----------------|-----|-----|-----------|
| W. Flyc h | 60 | 5R | |
| W. Flyc h | 72 | 8L | 8/9 |
| W. Flyc h | 74 | 9L | 7/9 |
| W. Flyc h | 76 | 4R | 2/11 |
| 3 B. Flyc h | 83 | 10L | 4/10 |
| 2 B. Flyc h | 83 | 10L | |
| 2 B. Flyc h | 83 | 10L | |
| W. Flyc h | 83 | 10R | |
| 2 Sp. Warbler h | 82 | 11L | |
| 4 D. Flyc h | 82 | 5L | |
| W. Flyc h | 82 | 8L | |
| W. Flyc h | 85 | 6L | 4/11 Can. |
| L. T. Hummer S | 87 | 1L | |
| W. Flyc h | 89 | 10L | 1/9 |
| M. Flyc h | 92 | 12L | 1/10 |
| W. Flyc h | 92 | 7L | |
| W. Flyc h | 96 | 20L | |
| B. Flyc h | 99 | 7L | |
| W. Flyc h | 102 | 11L | 24/23 |
| W. Flyc h | 110 | 15L | 23/23 |
| W. Flyc h | 115 | 7L | |
| W. Flyc h | 119 | 13L | |
| W. Flyc h | 119 | 20L | 1/25 |
| W. Flyc h | 119 | 0.0 | |
| W. Flyc h | 125 | 8L | 4/10 |
| W. Flyc h | 134 | 9L | |
| W. Flyc h | 135 | 8R | 4/15 |
| W. Flyc h | 135 | 5R | |
| W. Flyc h | 138 | 20L | |
| W. Flyc h | 138 | 15R | |
| W. Flyc h | 142 | 6L | |
| W. Flyc h | 148 | 7L | 1/10 |
| W. Flyc h | 148 | 6L | |
| W. Flyc h | 151 | 8R | |
| 2 W. Flyc h | 154 | 11R | 8/10 |
| W. Flyc h | 158 | 11L | |

650

MRB PAST EGGS

41-213 92

| Species | Length | Wing | Tail | Weight |
|---------------|--------|------|------|--------|
| Sw. Cuckoo 3 | 12.3 | 8.1 | 7.0 | |
| Sw. Cuckoo 1 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 2 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 3 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 4 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 5 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 6 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 7 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 8 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 9 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 10 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 11 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 12 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 13 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 14 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 15 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 16 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 17 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 18 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 19 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 20 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 21 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 22 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 23 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 24 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 25 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 26 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 27 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 28 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 29 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 30 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 31 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 32 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 33 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 34 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 35 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 36 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 37 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 38 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 39 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 40 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 41 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 42 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 43 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 44 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 45 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 46 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 47 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 48 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 49 | 12.4 | 8.1 | 7.0 | |
| Sw. Cuckoo 50 | 12.4 | 8.1 | 7.0 | |

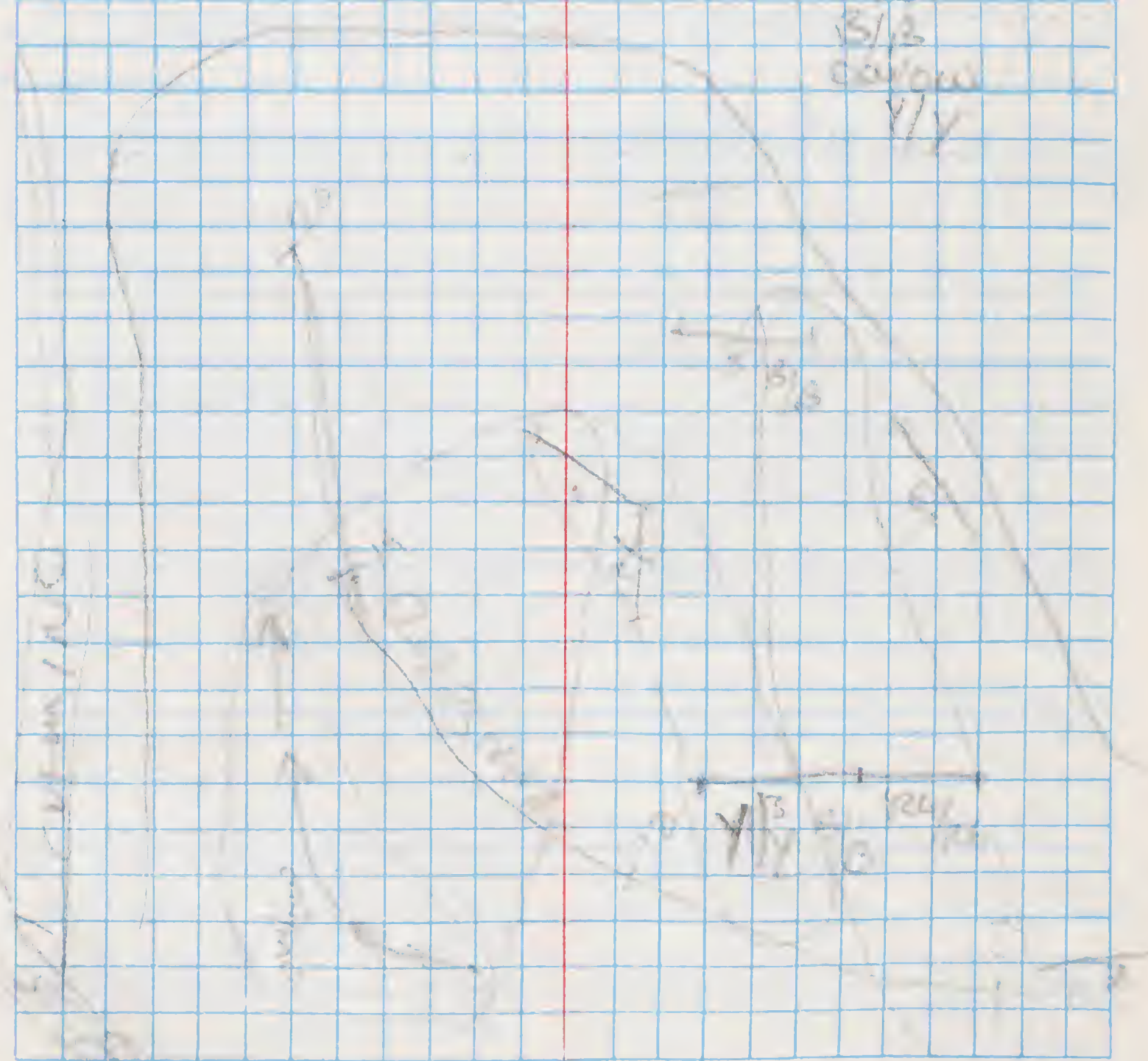
C

| | | | |
|----------------------|------|-----|-------|
| CyT h | 8.7 | 13R | |
| No. Water Thrush | 91 | 10L | |
| CyT Sh | 9.6 | 4R | |
| Gr. W. sparrow | 9.2 | 12R | 14/20 |
| ZWCS | 10.9 | 10L | |
| Sun. Horned Lark | 10.2 | 17R | |
| Maggie's | 10.9 | 6L | 3/5 |
| 8 WCS | 11.5 | 2R | |
| 2 BRG | | | |
| CyT h | 11.6 | 4R | |
| Th. S. S. sparrow | 11.2 | 5L | |
| Catb h | 11.6 | 8L | |
| Catb h | 11.8 | 6L | |
| 2 Social Fly | | | |
| Yellow Warbler | | | |
| Yf. G. sparrow | | | |
| Yf. sp. fly | | | |
| 2 Yell. Hum. Warbler | | | |
| 2 end like a sparrow | | | |

| | | | | | |
|----------|----|-----------|---|------------|------|
| 2 Le 2x6 | | Horropt | 1 | ah/gr | 1L |
| 1x6 | | " | 5 | 10/100 | 1000 |
| 6x221 | 7m | Sp. sp. | 3 | bl. air | |
| 5x25 | 1 | 5 Collect | 2 | bl. to 1st | |
| 5x2011 | | Sp. sp. | 2 | br | Lb |
| 3x81 | | | | | |
| 4x61 | | | | | |

| | |
|-------------|----|
| Catb | 6 |
| CyT | 6 |
| Gr. Co. Fly | 1 |
| 2nd Bird | 1 |
| Wilson's | 5 |
| Crow | 1 |
| Maggie | 4 |
| YBO | 2 |
| LEFL | 7 |
| Wooded | 1 |
| Redstart | 1 |
| Yellow W. | 1 |
| YBFL | 1 |
| No Water | 1 |
| Yellow R. | 1 |
| | 93 |

RC 1/2
 0/1
 3/2
 1/1
 1/1



C

705-1005

CHAS 5 FEB

| | | | |
|--------------|-------|-----|-------|
| Macaw h | 29.9 | 16L | |
| US Emerald h | 19.6 | 20L | |
| Macaw h | 10.7 | 2L | |
| Macaw h | 19.5 | 20L | |
| Macaw h | 19.2 | 20L | |
| Macaw h | 10.5 | 10L | |
| Macaw h | 18.8 | 20L | |
| Macaw h | 18.5 | 20L | |
| Macaw h | 18.7 | 20L | |
| Macaw h | 17.8 | 20L | |
| Macaw h | 17.9 | 15R | |
| Red h | 17.9 | " | |
| Macaw h | 18.2 | 4L | 12/25 |
| Macaw h | 73.00 | | |
| Macaw h | 17.8 | 13R | |
| Macaw h | 17.1 | 2L | 9/10 |
| Macaw h | 16.8 | 13L | |
| Macaw h | 16.7 | 17R | |
| Macaw h | 17.3 | 27R | |
| Macaw h | 16.1 | | |
| Macaw h | 16.4 | 6L | 10/10 |
| Macaw h | 16.5 | 2L | |
| Macaw h | 16.4 | 8L | 10/12 |
| Macaw h | 16.6 | 1L | 9/13 |
| Macaw h | 16.3 | 17R | 9/10 |

Red h

| | | | |
|---------|------|-----|-------|
| Macaw h | 15.4 | 20L | |
| Macaw h | 15.2 | 15L | 10/10 |
| Macaw h | 14.2 | 2L | |
| Macaw h | 14.1 | 10L | 10/10 |
| Macaw h | 14.1 | 15L | 10/10 |
| Macaw h | 13.4 | 12L | |
| Macaw h | 13.1 | 13L | 10/10 |
| Macaw h | 13.5 | 12R | 4/10 |
| Macaw h | 13.2 | 7L | |
| Macaw h | 13.1 | 15L | 9/14 |
| Macaw h | 12.1 | 10L | |
| Macaw h | 12.8 | 20R | |
| Macaw h | 12.5 | 1L | 10/10 |
| Macaw h | 12.5 | 10L | |
| Macaw h | 12.1 | 8L | 10/20 |
| Macaw h | 12.6 | 11R | 23/24 |
| Macaw h | 12.7 | 2L | 22/23 |
| Macaw h | 12.2 | 19R | 10/10 |
| Macaw h | 12.2 | 2L | 10/10 |
| Macaw h | 11.9 | 15R | 6/1 |
| Macaw h | 11.9 | " | 10/25 |
| Macaw h | 11.8 | 10R | |
| Macaw h | 11.9 | 6R | 10/10 |
| Macaw h | 11.1 | 2L | |
| Macaw h | 11.8 | 11L | |
| Macaw h | 11.6 | 15R | |
| Macaw h | 11.8 | 11R | 10/10 |
| Macaw h | 10.8 | 14R | |
| Macaw h | 10.8 | 5R | |
| Macaw h | 10.8 | 21R | 4/12 |
| Macaw h | 10.4 | 12R | |
| Macaw h | 10.2 | 15R | |
| Macaw h | 11.1 | 10R | |
| Macaw h | 9.8 | 7R | 10/10 |
| Macaw h | 9.9 | 10R | |
| Macaw h | 9.1 | 10R | |
| Macaw h | 8.5 | 10R | |

W. B. G. G. G. G. G.

| No | Species | TL | Wt | Sex |
|----|-----------------|-----|-----|----------|
| 1 | Redstart L | 7.5 | 78 | 28/29 |
| 2 | Wedge t | 1.5 | 100 | 21/29 |
| 3 | Wedge t Cap Fly | 7.1 | 102 | |
| 4 | Wedge t | 6.7 | 182 | 20/26 |
| 5 | Blk Chb | 6.2 | 105 | |
| 6 | Redstart h | 5.4 | 72 | 20/25 |
| 7 | Wedge t Fly | 5.4 | 130 | 12/22 |
| 8 | Wedge t | 5.3 | 92 | 1/5/2000 |
| 9 | Redstart h | 2.9 | 21 | 10/22 |
| 10 | Wedge t | 2.0 | 202 | |
| 11 | Wedge t | 3.3 | 142 | |
| 12 | Wedge t | 2.5 | 161 | |
| 13 | Wedge t | 2.6 | 122 | |
| 14 | Wedge t | 2.7 | 162 | |
| 15 | Slender t | 2.3 | 72 | |
| 16 | Blk Chb | 1.8 | 52 | |
| 17 | (SwA) | 2.1 | 166 | 8/25 |
| 18 | SwA | " | " | " |
| 19 | SwA Cap Fly | 1.9 | 21 | |
| 20 | Wedge t | 1.8 | 91 | 05/3 |
| 21 | Wedge t | 1.6 | 82 | |
| 22 | Wedge t | 1.8 | 142 | 1/2 |
| 23 | Wedge t | " | " | " |
| 24 | Wedge t | 1.8 | 21 | 11/2 |
| 25 | Wedge t | 1.2 | 52 | |
| 26 | Wedge t | 1.3 | 21 | 10/23 |

W. H. H. H.

12

| 25-26-27-28-29-30-31 | 10R |
|----------------------|--------------|
| WUPH 6 FEB | 710 440 1000 |
| CUT h | 5L |
| Cut h | 10R |
| Cut h | 20L |
| Common Red Birch | 9L |
| Social Birch | 19L |
| White Birch | 7L |
| Villous Birch | 18L |
| BBG | 9L |
| Black Birch | 7R |
| Var Birch | 1L |
| CUT h | 1L |
| Cut h | 13L 1/3 |
| W. Birch | 18L |
| Social Birch | 17R |
| Villous Birch | 18R |
| BBG | 20L |
| 189L h | 18L |
| 2 18L h | 20L |
| Villous Birch | 20R |
| Common Birch | 18R |
| BBG | 3L |
| 2 Birch | 3L |
| W. Birch | 7L |
| Bull Birch | 6L |
| River | 7L |
| CUT h | 10R |
| BBG | 1L |
| 189L h | 15L |
| 3 Birch | 20L |
| CUT h | 3L |
| Black Birch | 3L |
| CUT h | 18R |
| W. Birch | 10L |
| CUT h | 6L |
| Black Birch | 9L |
| CUT h | 10R |

| Species | Length | Wing | Tail | Weight |
|---------------|--------|------|------|--------|
| CyT h | 12.1 | 2R | | |
| Wilson's Ph | 12.7 | 3R | | 12.5 |
| 2 W. S. | 11.8 | 5L | | 3h |
| GBA h | 11.8 | 4L | | 2h |
| " " | 12.1 | 4R | | |
| YB Cuckoo | 10.7 | 5L | | 2h |
| 2 W. S. | 11.2 | 3OR | | |
| G. B. G. S | 11.1 | 2OR | | |
| B. B. G. S | 11.4 | AR | | |
| CyT h | 10.1 | 6R | | |
| CyT h - ad | 9.9 | 10L | | |
| 2 W. S. | 9.6 | 13R | | |
| Mal Blackbird | 9.6 | 10R | | 2h |
| Wilson's Ph | 8.6 | 10L | | |
| 2 Small Ph | 8.6 | 8L | | |
| Mal Blackbird | 8.3 | 12L | | 4/4 |
| 2 W. Tanager | 5.8 | 2OR | | 9/3 |
| Spurred Vireo | " | " | | " |
| CyT h | 4.5 | 6R | | |
| " | " | 19L | | |
| B. G. h | 3.8 | 12L | | |
| Wilson's Ph | 2.8 | 7R | | |
| Manakin | 4.3 | 15R | | |
| CyT h | 1.9 | 8L | | 1/1 |
| Wilson's Ph | 1.8 | 8R | | 1/1 |
| Mal Blackbird | 1.9 | 20L | | |
| Wilson's Ph | 0.9 | 15R | | 1/1 |

31319 0.85 2L
W. Song 0.85 3L 1-7
Yellow W 0.3 10L
L. Song 0.5 4L
C. 13

| | |
|----------|---|
| Black | 1 |
| YB | 2 |
| Yellow W | 2 |
| LEFL | 1 |
| W. W. W. | 4 |
| Maggy | 1 |
| 887 | 2 |
| ORANGE | |
| Ochre | |
| 91 | |
| 100 11 | |
| 100 111 | |

FORAGING

Northern

Remember

23/23 Selected Entry Week
Assigned by Dean

On your computer in a library, tree,
has each node in a single sign in a
clutter area of the wall all in one place
out the wall of the room communicating
in each other, as to how much food
is "being found" to share is written
by each of the ants, which they decide to
have a tree in the house of what
gets communicated while in the tree?

Why don't they stay in one free language
in the Church? Kicker said
already established? Need to stop
moving for defense purposes!

Cloudy, cool

Minimus Habitat - Co L.A. - 10/10/00

EMP PLAYBACKS 7 FEB 650

| P.T. | M ₁ | M ₂ | M ₃ |
|------|---|--|----------------|
| 2 | | | |
| 3 | 1:00 L ₁ HIT HIT HIT HIT STOP | | |
| 5 | | 4:00 HIT HIT HIT HIT HIT HIT HIT HIT HIT moved further away MUTUALS PT CLAY | |
| P+2 | | | 7:05 |
| 2 | | | |
| 3 | 2:45 HIT HIT HIT | | |
| 5 | 5:00 HIT HIT HIT HIT 5:10 HIT HIT HIT HIT HIT STOP | 4:40 HIT 5:10 HIT | |

Present - 10/10/00

P+3 PT MIN 7:20

| P+3 | PT MIN | M ₃ |
|------|---|---|
| 2 | | |
| 3 | 0:10 HIT HIT HIT HIT HIT HIT HIT HIT HIT 10:10 STOP | 1:30 HIT HIT HIT 15:10 |
| 5 | | 1:45 10:10 |
| 15 M | | HIT HIT HIT 2:50 M |
| P+4 | CLAY 7:35 | NADA |
| P+5 | PT MIN 7:55 | |
| 2 | | |
| 5 | 12:5 15:10 STOP | 2:45 10:10 STOP |
| 5 | | 2:10 HIT HIT HIT HIT HIT HIT HIT HIT HIT |

FLYOVER

C

P26 PT FLAV 808

2

3

5 ~~HHHH~~ 345
111

P27 PT MIN 822

2

13^m

3 HH 0:10
~~HHHH~~
HH 5555
55555555

5555555
555554

st. moved
farther away
13^m

P28 PT FLAV 835 NADA

P29 m₁ m₂ PT MIN F₁ 850

2

FLV
OVER
But

0:07
HH HH 55
HH 55555

5 5555555
55555555
55555555
10 10 10 10 10 10 10
10 10 10 10 10 10 10
10 10 10 6 512

P210 PT FLAV 905
2 area ca. 2000

0:05
HH 55
50m
130

15 4:03 3:10 F₂

71 2970⁺
lejos

C

row
eye
young

[illegible]

8590 725
 ✓ Red-vein (1) ✓ Redstart (1) ✓
 ✓ So. House Wren (1) ✓ S. House Wren (1) ✓
 ✓ Clay Col. Rob. (1) ✓ W. B. Elaenia (1) ✓
 ✓ Blu. Gray Tan (1) ✓ Red-bill Pig (1) ✓
 ✓ Or. Oriole (1) ✓ Least Fly (1) ✓
 ✓ Troop King (1) ✓ Social Fly (1) ✓
 ✓ Y.T. Euphonia (1) ✓ Sp. br. Wren (1) ✓
 ✓ HT Wrenwren (1) ✓ Gr. Tail Grackle (1) ✓
 ✓ Brown Hl. Parakeet (1) ✓ Buff-b. Salt (1) ✓
 ✓ Br. Green Fly (1) ✓ Y.O. Fly (1) ✓
 ✓ Chat (1) ✓ Mang. (1) ✓
 ✓ Catbird (1) ✓ Hl. Bl. Bird (1) ✓
 ✓ Masked Tanager (1) ✓ Ruddy Cuckoo (1) ✓
 ✓ BBG (1)

9570 750
 ✓ No Oriole (1) ✓ Red-bill Wren (1) ✓
 ✓ Gray Oriole (1) ✓ Catbird (1) ✓
 ✓ Y.T. Euphonia (1) ✓ Red-bill Pig (1) ✓
 ✓ Dusk Cap Fly (1) ✓ Gr. Tail Grackle (1) ✓
 ✓ Buff-b. Salt (1) ✓ B. Co. Fly (1) ✓
 ✓ Chat (1) ✓ Ruddy Cuckoo (1) ✓
 ✓ Bl. Green Fly (1) ✓ Social Fly (1) ✓
 ✓ S. T. H. (1) ✓ Green H. Elaenia (1) ✓
 ✓ Bl. Ch. Wren (1) ✓ Pale-bill Wren (1) ✓
 ✓ L. Fly (1) ✓ Bibb (1) ✓

9570 815
 ✓ Redstart (1) ✓ Redstart (1) ✓
 ✓ House Wren (1) ✓ Red-bill Wren (1) ✓
 ✓ Catbird (1) ✓ Red-bill Pig (1) ✓
 ✓ W. B. Elaenia (1) ✓ Least Fly (1) ✓
 ✓ S. T. H. (1) ✓ Social Fly (1) ✓
 ✓ Ruddy Cuckoo (1) ✓
 P. 2 3070 955
 ✓ House Wren (1) ✓ Mang. (1) ✓
 ✓ Catbird (1) ✓ Gr. Tail Grackle (1) ✓
 ✓ W. B. Elaenia (1) ✓ Hl. Bl. Bird (1) ✓
 ✓ Catbird (1) ✓
 ✓ Dusk Cap Fly (1) ✓
 ✓ Social Fly (1) ✓
 ✓ Buff-b. Salt (1) ✓
 ✓ Y.O. Fly (1) ✓
 ✓ Mang. (1) ✓
 ✓ Hl. Bl. Bird (1) ✓
 ✓ Br. Co. Fly (1) ✓
 ✓ L. Fly (1) ✓

5570 915
 ✓ Yellow Warbler (1) ✓ W. C. S. (1) ✓
 ✓ Catbird (1) ✓ C. S. A. (1) ✓
 ✓ Dusk Oriole (1) ✓ (1) ✓
 ✓ Catbird (1) ✓ Ind. B. (1) ✓
 ✓ S. T. H. (1) ✓
 ✓ Y. Wren (1) ✓
 P. 9 7070
 ✓ Catbird (1) ✓
 ✓ W. B. Elaenia (1) ✓
 ✓ L. Fly (1) ✓
 ✓ Ruddy Cuckoo (1) ✓
 ✓ W. C. S. (1) ✓
 ✓ Y. Wren (1) ✓
 ✓ Br. Co. Fly (1) ✓
 ✓ S. T. H. (1) ✓
 ✓ Mang. (1) ✓
 ✓ Hl. Bl. Bird (1) ✓
 ✓ Br. Co. Fly (1) ✓

Overcast - storm

A horizontal number line with arrows at both ends. It is marked with integers from 0 to 10. A blue dot is placed at the number 2.

11

| | |
|--------------------------------------|---------------------|
| ✓ Lesser Greenlet 1/1 | ✓ L. Tanager 1 |
| ✓ Hooded Warbler 1 | ✓ Ash-throated 1/1 |
| ✓ YBLR (1) → 1 ^{12:15} over | ✓ Ruby Munia |
| ✓ Red-capped Ant-Tan 1/1 | ✓ C.B. Euphonia 1 |
| ✓ R. Hummingbird 1/1 | ✓ Dusky Antbird 1 |
| ✓ Redstart sp | ✓ RTA Tanager 1/1 |
| ✓ Mealy Parrot (BSP) | ✓ L. Hermit 1 |
| ✓ Band-tail 1 | ✓ Top Gnatc. 1 |
| ✓ Army Green Grosbeak 1 | ✓ YBLR sp 1 |
| ✓ Wedge-tailed Sabrewing 1 | ✓ CSWA 1 |
| ✓ Ho Oriole 1/1 | ✓ B. gnat 1 |
| ✓ L. T. Hermit 1 | ✓ B/G Grosbeak 1 |
| ✓ RT Hummingbird 1 | ✓ WB Eucardal 1 |
| ✓ Ruby-throated Hummingbird 1 | ✓ L. T. Tanager 1/1 |

22

722

| | |
|---------------------|-------------------|
| ✓ Dishy Ants (1) | Wilson's |
| ✓ BFL 10/15 | Blue Wasp (1) |
| ✓ Landed (1) | RCA Tar (1) |
| ✓ FB Wasp (1) | RT Hummer 1 ✓ |
| ✓ W Brown 1 | Ang. Ta (1) |
| ✓ Heavy Paint 60 | RT Ant (1) ✓ |
| ✓ R A Tanager (1) | Red Wren (1) |
| ✓ C T Tanager (1) | LT Hummer 1 |
| ✓ W. C. Tanager (1) | Black Tanager (1) |
| ✓ L W. Tanager (1) | VB Tanager ✓ (1) |
| ✓ G. Tanager 10/40 | L. Ant (1) ✓ |

Uropoda, 10/5

2020.12.12

T. Grant Walker

745

[illegible]

25

2000

[illegible]

100



| | |
|------------------------------|-----------------------------|
| ✓ Yellowthroat (10) | ✓ Lesser Goldfinch (1) |
| ✓ Meadow Lark (6) | ✓ Redpoll (1) |
| ✓ Cowbird (1) | ✓ Titmouse (1) |
| ✓ Carolina Robin (1) | ✓ Downy Woodpecker (1) |
| ✓ White-throated Sparrow (1) | ✓ White-crowned Sparrow (1) |
| ✓ Starling (1) | ✓ Goldfinch (1) |
| ✓ Cowbird (1) | ✓ American Crow (1) |
| ✓ House Wren (1) | ✓ Starling (1) |

[illegible]

✓ CR Fly (1) R-guy 1 ✓
 ✓ PB Woodpecker (1) B. Ch. Wren (1)
 ✓ Tanager (1)

P27 830

✓ Greenish Elaenia (1) ✓ C. Wren (1)
 ✓ Ash Wren (1) ✓ BPL (1) ✓
 ✓ Y. Vireo (1) ✓ B. Ch. Wren (1)
 ✓ BB Fly (1) ✓ Wren (1)
 ✓ Violaceous (1) ✓ B. Tanager (1)
 ✓ Dusky Cap Fly (1) ✓ RTNW (1)
 ✓ Masked Tanager (1) ✓ B. Wren (1)
 ✓ B. Wren (1) ✓ B. Wren (1)
 ✓ Oropendula (1) ✓ Redstart (1)

P28 905

✓ BPL (1) ✓ L. Wren (1)
 ✓ Ash Wren (1) ✓ B. Ch. Wren (1)
 ✓ W. Wren (1) ✓ SB Pigeon (1)
 ✓ Oropendula (1) ✓ Redstart (1)

P29 925

✓ C. Wren (1) ✓ B. Wren (1)
 ✓ SB Pigeon (1) ✓ Brown Ch. Wren (1)
 ✓ BPL (1) ✓ Ash Wren (1)
 ✓ RTNW (1) ✓ Y. Vireo (1)
 ✓ Oropendula (1) ✓ B. Wren (1)

✓ Parakeet (1) ✓ Wren (1)
 ✓ Ash Wren (1) ✓ B. Ch. Wren (1)
 ✓ Y. Vireo (1) ✓ B. Tanager (1)
 ✓ Ash Wren (1) ✓ B. Wren (1)
 ✓ B. Wren (1) ✓ B. Wren (1)

P30 940
 ✓ Ash Wren (1) ✓ Wren (1)
 ✓ B. Ch. Wren (1) ✓ B. Tanager (1)
 ✓ C. Wren (1) ✓ B. Wren (1)
 ✓ Ash Wren (1) ✓ B. Wren (1)
 ✓ Y. Vireo (1) ✓ B. Wren (1)
 ✓ B. Wren (1) ✓ B. Wren (1)

| SECONDARY | THIRTY | 11 FEB |
|-------------------|--------|------------------|
| Dusky Antbird sp | 0.2 | SL 2/4 6.45 |
| Catbird h | 0.6 | SR 9.15 Overcast |
| Spot br. Wren h | 0.7 | 8L |
| Lesser Greenlet h | 0.9 | 1R 19/23 |
| Brown Ch. Flych | 0.3 | 17R |
| W. B. Wren h | 0.4 | 12R |
| RT Ash Tanager h | 0.6 | 14R |
| B. Grosbeak h | 1.3 | 7R |
| 2-lined Thrush h | 1.2 | 16L 13 17L 9/25 |
| Redstart h | 1.3 | 9R 5/15 1/15 |
| Catbird h | 1.2 | 14L |
| RT T. Wren h | 1.2 | 10L 1/15 |
| W. B. Wren h | 1.3 | 15R 9/25 |
| Y. Vireo h | 2.3 | 17R 9/25 |
| 2-lined Thrush h | 1.2 | 16R 11/15 |
| Redstart h | 1.3 | 17R 5/15 |
| RT Ash Tanager h | 3.2 | 9R 11/15 |
| AC h | 3.3 | 7R 5/15 |
| Catbird h | 3.2 | 14L 11/15 |

| | | | |
|---------------------|-----|-----|-------|
| WBW Warbler h | 3.4 | 15L | |
| Sepia Cap Fly s | 3.4 | 8R | 4/15 |
| WBW Warbler h | 3.6 | 7L | 0/10 |
| Sulphur wing Fly s | 4.2 | 4R | 2/8 |
| 2 Spotted Warbler h | 4.3 | 18R | 0/5 |
| VBFL h | 4.3 | 4L | 2/16 |
| h | 4.3 | 5R | 2/14 |
| 2 Dawn low | | | |
| Redstart h | 4.4 | 11R | 15/16 |
| Red cap Man h | 4.6 | 8R | |
| Brown h | 4.6 | 10R | 0/16 |
| Scrub h | 5.1 | 7L | 1/5 |
| h | 5.2 | 6R | 1/6 |
| L. Minivet s | 5.7 | 0.0 | |
| Hooded | 4.6 | 16L | |
| Sp br Warbler | 4.0 | 20R | |
| VBFL h | 5.4 | 9L | |
| WB Emerald h | 5.3 | 3R | |
| Brown h Fly h | 6.2 | 5R | |
| 2 Characal s | 7.7 | 2L | 2/3 |
| Leaving Melastoma | | | |
| VBFL h | 7.6 | 16L | |
| Co. h Fly h | 8.5 | 6L | |
| Wagtail h | 7.9 | 19L | |
| 2 Green Jay h | 8.6 | 7L | |
| WB Emerald s | 8.7 | 1L | |

| | | | |
|--|------|------|--------|
| WB Warbler | 9.7 | 3L | 2/12 |
| VBFL h | 9.2 | 9L | 10/10 |
| Calliope h | 8.7 | 7L | 1/10 |
| Scrub h | 10.3 | 10L | |
| Wagtail h | " | 6L | |
| Geophila - yellow Catbird in 20 Forest | | | |
| Is there also shrub Wg in 2 Forest | | | |
| Is low fruit? | | | |
| WB Warbler h | 10.8 | 8L | |
| WB Warbler h | 10.6 | 16R | |
| 2 Brown Warbler | 11.1 | 12L | |
| Lesser Greenlet h | 11.7 | 20R | |
| Scrub h | 11.8 | 20R | |
| VBFL h | | | |
| VBFL h | | | |
| Co. h | | | |
| Greenish Elaenia | | | 14/19R |
| Redstart h | | | |
| Redstart h | | | |
| VBFL h | | | 14/18 |
| VBFL h | | | |
| Lesser Greenlet | | | |
| 3 Red Tanager s | 14.8 | 712L | |
| Hooded s | 14.8 | 75L | |
| Redstart h | " | 8L | |
| Tanager h | 15.2 | 18R | |
| VBFL h | " | 20R | |
| VBFL h | " | 11R | |
| VBFL h | 15.6 | 17R | |
| VBFL h | 16.2 | 81R | |
| VBFL h | 16.7 | 15L | |
| VBFL h | 16.3 | 81R | |
| VBFL h | 21.2 | 5L | |
| VBFL h | " | 51R | |
| VBFL h | " | 51R | |
| VBFL h | 21.3 | 10R | |
| VBFL h | 21.7 | 10R | |
| VBFL h | 21.5 | 8L | |
| VBFL h | | 8L | |

WHERE TO PLANT IN PARCHES
Change from 2010 to 2011
HEAD GARDENS

RIVER-RAVE FOREST 13 FEB

| | | | |
|---------------|-----|-----|--------|
| PRNA h | 0.6 | 11L | 19/27 |
| Mangrove h | 0.9 | 20R | |
| W. B. L. h | 0.9 | 18L | |
| Brown Wood h | 0.9 | 18L | 25/27 |
| W. B. L. h | 0.6 | 10R | |
| Acacia h | 0.8 | 15L | |
| W. B. L. h | 0.9 | 20R | |
| Wood Thrush h | 1.3 | 18R | |
| No. Key h | 1.6 | 15R | 20/32 |
| Gr. C. h | 1.3 | 17L | |
| W. B. L. h | 1.4 | 14L | 20/21 |
| Gr. H. h | 1.5 | 2L | |
| Bl. faced h | 2.3 | 11L | |
| D. W. h | 3.4 | 3L | |
| B. h | 2.3 | 12R | |
| P. h | 3.1 | 14L | 2/10 |
| W. h | 3.4 | 6L | |
| P. h | 3.4 | 13L | |
| A. h | 3.5 | 18R | |
| A. h | 3.7 | 2R | |
| W. h | 3.7 | 20L | |
| L. h | 3.7 | 0 | |
| W. h | 3.8 | 11R | 1/1 |
| S. h | 3.8 | 7L | 9/16 |
| A. h | 4.2 | 0L | |
| W. h | 4.4 | 5L | |
| W. h | 4.4 | 9L | |
| W. h | 4.4 | 10L | |
| A. h | 4.4 | 10L | |
| W. h | 4.6 | 10L | |
| W. h | 5.1 | 9L | 3/9/10 |
| A. h | 5.3 | 5L | |
| W. h | 5.2 | 3L | |
| W. h | 5.3 | 10L | |
| W. h | 5.3 | 10L | |
| W. h | 5.3 | 10L | |
| W. h | 5.9 | 7L | |

| | | | |
|-------------------|------|-----|------|
| Bl. Gnatcatcher h | 14.4 | 10L | |
| LEFL h | 14.2 | 12R | |
| SUTA h | 15.4 | 18L | |
| Sp. h | 15.4 | 5R | |
| Ped. h | 15.5 | 9L | 6/10 |
| B. h | 15.6 | 3R | |
| W. h | 15.6 | 19R | |
| C. h | 15.8 | 10R | |
| G. h | 16.2 | 4R | |
| G. h | 17.4 | 7R | |
| LEFL h | 17.9 | 13L | |
| G. h | 18.4 | 8L | |
| G. h | 18.1 | 11L | |
| W. h | 18.7 | 15R | 1/2 |
| W. h | 18.9 | 7L | |
| C. h | 19.8 | 8R | |
| W. h | 19.3 | 8L | |
| LEFL h | 19.5 | 4R | |

| | | | |
|-------------|---|----------|----|
| Gr. h | 6 | Acacia | 2 |
| Gr. h | 5 | Mangrove | 1 |
| Yellow W. h | 3 | Acacia | 1 |
| Gr. h | 1 | Acacia | 4 |
| LEFL | 9 | SUTA | 2 |
| Gr. h | 3 | | 41 |
| W. h | 2 | | |
| W. h | 3 | | |

W. Woodcocking more now

| | | | |
|--------------------|------|-----|------|
| R. P. Tanager h | 6.6 | 7L | 4/25 |
| Yellow Warbler h | 6.5 | 12L | |
| Wood Thrush h | 6.5 | 20L | |
| W. Tanager h | 7.3 | 2L | |
| Little Hermit s | 7.3 | 00 | |
| W. W. h | 7.5 | 11 | |
| Wood Thrush | 7.6 | 10L | |
| W. Tanager h | 7.9 | 00 | |
| Wood Thrush h | 8.1 | 3R | |
| Green A. Warbler | 8.7 | 16R | |
| Wood h | 8.6 | 9L | |
| Long tail Hermit h | 8.8 | 2R | 10R |
| W. Tanager | 8.9 | 2L | |
| Wood h | 9.6 | 7L | |
| Wood h | 9.6 | 20L | |
| W. Tanager h | 9.8 | 5L | |
| W. Tanager | 9.7 | 10L | |
| W. Tanager h | 10.2 | 12R | |
| Lesser Greenlet h | 10.1 | 17L | |
| W. Tanager h | 10.3 | 20L | 4/25 |
| Pink h | 11.8 | 6L | |
| Wood h | | | |
| S. W. Warbler h | 11.3 | 10L | |
| Yellow Warbler h | 11.7 | 12L | |
| Yellow Warbler h | 11.9 | 13L | |
| Yellow Warbler h | 12.2 | 18R | |
| Wood h | 17.2 | 10R | 4/25 |

Admission well ↓ aft 9 am.

| | | | |
|-----------------|------|-----|----------|
| W. Tanager h | 11.5 | 16R | 2/25 |
| W. Tanager h | 12.6 | 10L | 25/25 |
| W. Tanager h | 12.7 | 15R | |
| W. Tanager h | 12.8 | 3L | |
| W. Tanager h | 12.8 | 3R | 25/25 |
| W. Tanager h | 12.8 | 20R | |
| W. Tanager h | 12.8 | 10L | 25/25 |
| W. Tanager h | 12.8 | 17R | |
| W. Tanager h | 13.1 | 14R | |
| Green Warbler h | 14.1 | 2L | |
| W. Tanager h | 13.6 | 20L | 7/10 |
| W. Tanager h | 13.5 | 15L | |
| W. Tanager h | 13.5 | 10L | |
| W. Tanager h | 13.7 | 3L | 4/9/1000 |
| W. Tanager h | 13.7 | 6L | " |
| W. Tanager h | 13.3 | 13L | |
| W. Tanager h | 13.2 | 11L | |
| W. Tanager h | 14.1 | 3L | |
| W. Tanager h | 14.5 | 15R | 3/10 |
| W. Tanager h | 14.9 | 4L | |
| W. Tanager h | 14.9 | 12R | |
| W. Tanager h | 15.1 | 0.0 | 7/2.1 |
| W. Tanager h | 15.3 | 3L | |
| W. Tanager h | 15.5 | 7R | |
| W. Tanager h | 15.7 | 14R | |
| W. Tanager h | 15.4 | 10L | 7/9 |
| W. Tanager h | 15.7 | 0L | |
| W. Tanager h | 16.2 | 20R | |
| W. Tanager h | 16.2 | 10L | |
| W. Tanager h | 16.2 | 20L | 25/25 |
| W. Tanager h | 16.9 | 20L | |
| W. Tanager h | 17.2 | 17R | |
| W. Tanager h | 17.6 | 1L | |
| W. Tanager h | 18.4 | 1L | |
| W. Tanager h | 19.1 | 15R | |

| | | | |
|------------------------|--------|--------|--------|
| POINT | COUNTS | 16 FEB | 92 |
| 5107 de Rodrigo Sunny | | | |
| Upper Forest Gap | | | 710 |
| At Home (1) | | | |
| And around Antares 1 ✓ | | | Can |
| See and across | | | Recall |
| Chick Hill Pigeon (11) | | | |
| 4/5 L (1) | | | |

- Transfer To navigation info for
- Alameda Port point counts
- also numerous mapping

[illegible]

Trans A 10

820

| | |
|------------------|------------------|
| W bill Wacoys 1 | RTA Tanager 1 |
| OB Sparrow 1 | Lesser Ant 11 |
| VRFL (1) 1/2 1/4 | WB Wacoys 1 |
| WB Wacoys (1) | RT Tanager (1) |
| Grn (Beech) (1) | YO Phc 1 |
| SBP Wacoys (1) | Wacoys 1 |
| W Mot Mot (1) | M Oropendula (1) |
| Grn Sn Vireo (1) | PB Wacoys (1) |
| L.T. Wacoys 1 | W Tanager (1) |
| Spar Wacoys (1) | Wacoys 1 |

Summ

SCRUB POTRERO 18 FEB 640

| | | | |
|--------------------|------|-----|------|
| Blch | 19.7 | 2R | 1/30 |
| Common Toddy Phc h | 19.9 | 8L | 3/9 |
| Wilson's Warb s | 19.9 | " | " |
| WCh | 19.3 | 6R | |
| Carb h | 19.8 | 20R | |
| Wacoys h | 19.5 | 15L | 1/2 |
| Orch Oriole s | 19.9 | 8L | 1/4 |
| W 320 2.00 7.75 | | | |
| Wilson's s, h | 19.9 | 3R | 1/2 |
| Orch Oriole m/s 12 | 19.4 | 12L | 9/1 |
| Veld Wacoys s | " | 14L | 5/4 |
| Red black h s | " | " | 10/1 |
| YBC h | 19.6 | 17L | 1/2 |
| Wacoys h | 19.5 | 10R | |
| WFL h | 19.8 | 15R | |

Catb h

19.2 8L 1/2

| | | | |
|--|------|-----|-------|
| 14.7 h | 19.1 | 5R | 0.2/1 |
| N O 2 | 19.4 | 12L | 3/1 |
| 2 B. Wacoys s | 18.3 | 20L | 4/4 |
| WFL h | 18.7 | 7L | |
| WFL h | 18.2 | 1R | 1/1 |
| WFL h | 17.8 | 2R | 2/5 |
| WFL h | 17.4 | 20R | |
| WFL h | 17.1 | 16L | |
| WFL h | 17.2 | 13R | |
| WFL h | 16.7 | 6R | |
| WFL h | 17.3 | 7R | |
| Wacoys ad | 16.3 | 6R | 2/2.5 |
| Wacoys | 16.4 | 10L | 5/7 |
| W in 5.20g champ, banded early, light coloration, looks up, black shadow on face | | | |
| SP h. Wacoys h | 16.4 | 18L | 1/2 |
| Wacoys h | 16.2 | 18L | 1/2 |
| WFL h | 15.8 | 3L | 2/5 |
| Wacoys s | 15.9 | 1R | |
| Catb h | 16.4 | 7L | 1/6 |
| W h | 15.3 | 9L | |
| WFL h | 15.1 | 9L | |
| Wacoys s | 14.8 | 1R | 4/2.5 |
| WFL h | 14.9 | 8L | |
| Wacoys ad | 14.6 | 10L | 1/2 |
| Catb h | 13.7 | 8R | |
| W h | 13.8 | 5R | |
| WFL h | 13.2 | 11R | |
| Wacoys h | 12.2 | 10L | 1/4 |
| WFL h | 11.8 | 8L | |
| Wacoys h | 11.6 | 10R | |
| WFL h | 11.3 | 4R | |
| Wacoys h | 10.8 | 8L | 2/4 |
| Wacoys h | 10.5 | 7R | |
| Wacoys h | 10.3 | 11L | 3/4 |
| Wacoys h | 10.4 | 12R | 1/10 |
| WFL h | 9.7 | 16L | |

C

Gray br. Martins 7.6 3R Sney

CYTH 7.8 10R

2 WBO h 7.5 20R

CYTH 7.1 10L

LEFL h 6.9 20R

" 6.8 17L

2 CYT 5.5 3L chane

WES h 5.4 7L

WES 4.8 8R

" "

So House Wren 3.9 1L 1/2

Dunghard 2.8 17R

WES S " 15R 20/3

LEFL h 2.5 6R

WES S 1.8 1L

Catb h 1.2 20R

CYTH 0.8 6L

0-1 R 10% Sg L 7

87% Tg 88

3 SST 5

4L

2x6 HTHT III Spider 4 ga 4

3x10 II Diptera 5 ga 4

1x4 II " 4 "

4x9 I 6M Spider 5 xl 4b

5x6 I Diptera 4 ga 4

8x10 III Spider 2 ga 20p

1x7 III

1 No of birds at } Warden
1 Orch " " }
2 " " " }

112 10 m

| | | |
|-----------|---|----------|
| 2x7 HT | 2 | blk lb |
| 3x10 I | 2 | " " |
| 6x17 I | 2 | " " |
| 5x15 II | 4 | Y/War lb |
| 2x8 I | 2 | bl stain |
| 3x8 I | 2 | Y/War lb |
| 5x9 I | 3 | W/War lb |
| 5x10 I | 5 | bl lb |
| 1x6 HT HT | 2 | W/War lb |
| 2x5 I | 4 | Y/War lb |

UPLAND FOREST 19 FEB 92

Cloudy, warm SHH 645-940

W/War Robin h 19.9 18R

ACATanager 19.2 15L

Redstart h 19.5 13R

USC h 19.6 19L

Redstart h 19.8 7L

GB Spammer h 19.3 10L

P. h 19.2 8L

W/War h 19.7 9R

I wish the MONKEYS WOULD CAN UP

W/War Greenlet h 19.9 15R 15/20

W/War h 19.1 16R

W/War h 19.2 17L 1/20

W/War h 19.8 15R 15/20

W/War h 18.6 20R 20/30

L. h 18.9 3R

W/War h 18.3 15L 15/20

W/War h 18.3 17L 17/20

W/War h 16.9 11L 11/20

W/War h 17.3 6R 6/33

W/War h 17.1 8R

W/War h 16.5 10R 10/30

W/War h 16.8 18R 18/32

W/War h 16.3 7L 7/20

W/War h 16.5 6L 6/20

| Species | Weight (g) | Wing (mm) | Tail (mm) | Notes |
|------------------------|------------|-----------|-----------|-------|
| White-throated Sparrow | 14.3 | 2R | 8/22 | |
| Spadepill h | 16.3 | 5L | 3/22 | |
| BTR Grosbeak h | 16.2 | 6R | | |
| TR 1st Warbler h | 16.2 | 10R | | |
| SR Flycatcher h | 15.8 | 6R | 3/30 | |
| WFL h | 15.8 | 2R | Gap | |
| 2 Sp of Warbler | 16.3 | 6L | | |
| D. Flycatcher h | 15.8 | 8L | Gap | |
| " " | 16.3 | 11R | | |
| 3 Meadow Lark | 12.1 | 7R | 17/29 | |
| WB Wren h | 15.8 | 3L | 05/05/99 | |
| 37 W. Tanager h | 15.8 | 5L | 5/13/99 | |
| 1 B. Grosbeak h | 15.7 | 18R | | |
| B. quail h | 14.7 | 15R | Gap | |
| B. Grosbeak h | 14.3 | 7L | 9/26 | |
| VO Flyc h | 14.1 | 12R | | |
| Catbird h | 14.2 | 10R | 2/2 Gap | |
| Ochre bell Flyc h | " | " | | |
| WB Emerald h | 14.4 | 8R | Gap | |
| SR Flyc h | 13.6 | 1R | | |
| Bl. Hd Parrot h | 13.2 | 11R | 2/1/97 | |
| WB Wren h | 13.1 | 17R | | |
| GC Warbler h | 13.2 | 20R | | |
| 2 KB Wren h | 12.8 | 3R | 25/28 | |
| Swift h | 12.7 | 5L | " | |
| Wren h | 12.4 | 6R | 3/21 | |
| Bl. Wren h | 12.4 | 17R | 11/05 | |

Little Creek Basin
[CRAT]

C

1 APRIL

4 P 8 D C B A

630 - 955

Sunny

13. P. W. Salt Sand 10L

Boggy

20883

Summary

| | | | | |
|---|--------------|------|-----|---------|
| 3 | Publ. Ant. h | 14.8 | 3R | |
| | Bl. Grosb. h | 19.9 | 7R | |
| | W. Grosb. h | 19.6 | 3R | 9/12 C |
| | W. S. h | 19.7 | 7R | |
| | W. S. h | 19.6 | 3R | 9/12 |
| | W. S. h | 19.7 | 7R | 9/12 |
| | W. S. h | 19.2 | 4R | |
| | W. S. h | 19.7 | 9R | |
| | W. S. h | 19.2 | 10L | |
| | W. S. h | 15.8 | 5R | |
| | W. S. h | 18.4 | 16R | 1/6 |
| | W. S. h | 7.7 | 18L | 1/9 |
| | W. S. h | 17.6 | 5L | 1/10 |
| | W. S. h | 17.6 | 10L | |
| | W. S. h | 17.3 | 12L | |
| | W. S. h | 17.3 | 20R | |
| 4 | W. S. h | 17.5 | 16R | 4/10 |
| 1 | Chachalaca | | | |
| | Spadebill h | 17.4 | 3L | |
| | W. S. h | 17.4 | 8R | 5/9 |
| | W. S. h | 17.4 | 10L | 0/4/11 |
| | W. S. h | 17.3 | 17R | 10/11 |
| | W. S. h | 15.8 | 10R | |
| 2 | W. S. h | 16.7 | 17R | |
| | W. S. h | 16.8 | 7L | 5/4 |
| | W. S. h | 16.7 | 2R | |
| | W. S. h | 16.7 | 7R | |
| | W. S. h | 16.6 | 2L | |
| | W. S. h | 16.7 | 10R | |
| | W. S. h | 16.3 | 8R | 2/10/11 |
| | W. S. h | 16.3 | 10R | |
| | W. S. h | 16.3 | 20R | |
| | W. S. h | 16.4 | 10R | |
| | W. S. h | 15.8 | | |

| | | | |
|-----------------|------|-----|--------|
| Wilson's L | 16.1 | 9L | Diff |
| YB Cuckoo h | 15.8 | 10L | |
| Orange h | 15.7 | 4L | 0 2/3 |
| Wilson's sp | 15.4 | 10R | 10/10 |
| Redstart sp | 15.3 | 12L | 0/10 |
| BW sp | 14.8 | 9L | 8/10 |
| Hooded h | 15.1 | 6L | 0/3/8 |
| Wilson's s | 14.9 | 2R | 9/10 |
| 2 Blk Hd Salt h | 14.4 | 18L | |
| GB Sparrow | 14.6 | 10R | |
| May h | 14.5 | 3R | |
| Y B Cuckoo h | 14.5 | 20R | |
| Slk Tody Ph h | | 9R | |
| R B Cuckoo h | 14.3 | 5L | |
| Y T Oriole h | 14.2 | 20L | |
| Wilson's h | 14.3 | 5L | 1/3 |
| B sp h | 14.3 | 8L | 3/8 |
| 2 Salt h | 14.2 | 10R | |
| Blk Cuckoo h | 14.1 | 11L | |
| BW sp | 13.8 | 20L | 20/100 |
| L Hummer s | 13.9 | 0.0 | |
| Y B Cuckoo | | | |
| Y B Cuckoo h | 13.4 | 3R | 3/10 |
| Wilson's h | 12.9 | 5L | |
| L Red Tody sp | 11.6 | 14L | 14/50 |
| Wilson's h | 11.2 | 10L | |
| Wilson's h | 10.5 | 14R | 14/50 |

| | | | |
|---------------------|------|-----|--------|
| Wilson's Coll Tan h | 10.5 | 4R | 9/10 |
| Wilson's h | 10.1 | 9R | |
| Wilson's h | 10.4 | 12R | 8/10 |
| R B Cuckoo h | 10.1 | 20R | 7/10 |
| Wilson's h | 9.9 | 4R | |
| BT Salt h | 9.5 | 6R | 8/10 |
| Wilson's h | 8.5 | 6L | |
| B sp h | 4 | 4 | 6/7 |
| Wilson's h | 8.9 | 1 | 7/10 |
| Wilson's h | 8.2 | 7R | |
| Wilson's h | 8.4 | 20R | 10/10 |
| Wilson's h | 7.9 | 12L | |
| Wilson's h | 7.3 | 5L | |
| Wilson's h | 8.7 | 17L | |
| Wilson's h | 9.4 | 5R | 0/10 |
| Wilson's h | 8.6 | 6R | |
| Wilson's h | 8.2 | 16L | 10/10 |
| Wilson's h | 8.3 | 15L | 9/10 |
| Wilson's h | 8.7 | 12L | 5/10 |
| Wilson's h | 8.6 | 11L | 10/10 |
| Wilson's h | 7.9 | 11R | 3/8 |
| Wilson's h | 7.3 | 8R | |
| Wilson's h | 7.3 | 10L | |
| Wilson's h | 6.8 | 2L | 7/10 |
| Wilson's h | 6.1 | 15R | |
| Wilson's h | 6.9 | 17L | |
| Wilson's h | 6.3 | 6.0 | |
| Wilson's h | 5.8 | 5L | |
| Wilson's h | 5.4 | 10L | 25/100 |
| Wilson's h | 4.5 | 12R | 9/10 |
| Wilson's h | 4.8 | 18R | 16/100 |
| Wilson's h | 4.5 | 10L | |
| Wilson's h | 4.5 | 10R | |
| Wilson's h | 4.1 | 2L | 3/5 |
| Wilson's h | 3.3 | 2R | |

| | | | |
|-----------------|-----|-----|-------|
| RB Spectail h | 41 | 20R | |
| 2 Dredg. Auk h | " | 17R | |
| Mour. 2 | 3.9 | 10L | 10/20 |
| Tam. W. W. W. 2 | 3.8 | 9L | 3/20 |
| L. W. W. 2 | 3.9 | 7L | |
| Wilson's 2 | 3.4 | 6L | 9/20 |
| 2 D. W. W. h | 2.9 | 20R | |
| W. P. W. 2 | 2.6 | 7L | 7/20 |
| Sep. Cap Flyc. | 2.8 | 2L | |
| O. W. W. h | 2.6 | 10R | 05/20 |
| B. A. W. h | 2.6 | 13R | |
| L. W. W. 2 | " | 10R | |
| S. W. W. 2 | " | " | |
| SD Sparrow h | 2.4 | 9L | |
| Red h | 2.4 | 15R | |
| B. G. W. h | " | " | |
| Wilson's h | 2.4 | 4L | |
| D. W. W. h | 7.7 | 9R | 9/11 |
| 2 C. W. W. h | 0.2 | 2R | 7/8 |
| C. W. W. 2 | 0.1 | 10 | 19/20 |
| G. W. W. h | 0.2 | 6L | 05/10 |
| B. W. W. h | 0.3 | 16L | 1/3 |
| Y. T. W. h | 0.1 | 10L | 20/20 |

| | |
|------------|----|
| Wilson's | 17 |
| Red h | 6 |
| T. W. W. 2 | 3 |
| L. W. W. 2 | 1 |
| O. W. W. 2 | 3 |
| W. W. W. 2 | 1 |
| M. W. W. 2 | 4 |
| B. W. W. 2 | 2 |
| H. W. W. 2 | 1 |
| W. W. W. 2 | 1 |
| C. W. W. 2 | 3 |
| S. W. W. 2 | 1 |

42
 EMPID. P. W. W. 21 R
 FLAV. H. W. W. ADJ. TO STATION
 OVERCH. P. 1 P. 11
 P. 1 P. 2 P. 2 652

2 W. W. W. 2

34 250
 W. W. W. 2

5 4 24
 55555555
 P. 2 P. 2 P. 2 706

34 W. W. W. 2

W. W. W. 2

PT 3 PT MIN 720

2 55555555
553
17m
5 1415555555
55555553
555555

PT 4 P.T. PLAY 735

2 5:15 7:15
5 1111 35m
18m

750

P-5 PT MIN 750

2 55555555
3 2:30
9
5 55555555
55555555
55555555

3 555555 555555 015
555555552
When P2 55555555
Should
10m
5 5555 10 10 55 5
3+
7m 13/30

P-7 P-8 P-9 8:18
5 51055 5 1111
16m 7/26

11 100 23 8 2:55 sample response to chip call of min?

P18

P.T. MAN

838

2 10 10 10 10

3 10 10 10 10

5 55 3 45
104 18m
7/20

P19

P.T. Man

P19 846

23 FEB 1964

2
5 10 10
1120
5+

5 15 5 500
L 20 35 20
m. 1 legs

P10

P.T. MAN

839

2
3 10 10 048 5 5 5 3 1130
10 10 10 10
10 1

5 10 10 10 10 10 5 5 5 5 5
10 10 10 5 5 5 1
5 5 5
25m

P1 1 Shale Manchen
P1 7 Forest " near the water fall
P1 8 " " " Sand village in the
P1 9 150m upstream on right bank
P1 10 " " " left
P1 11 " " " "
P1 12 " " " "
P1 16 Sand Manchen - 150 upstream
P1 17 " " " "
P1 18 " " " "
P1 19 Forest Manchen " "
P1 20 Sand Manchen 150m upstream
P1 21 " " " "

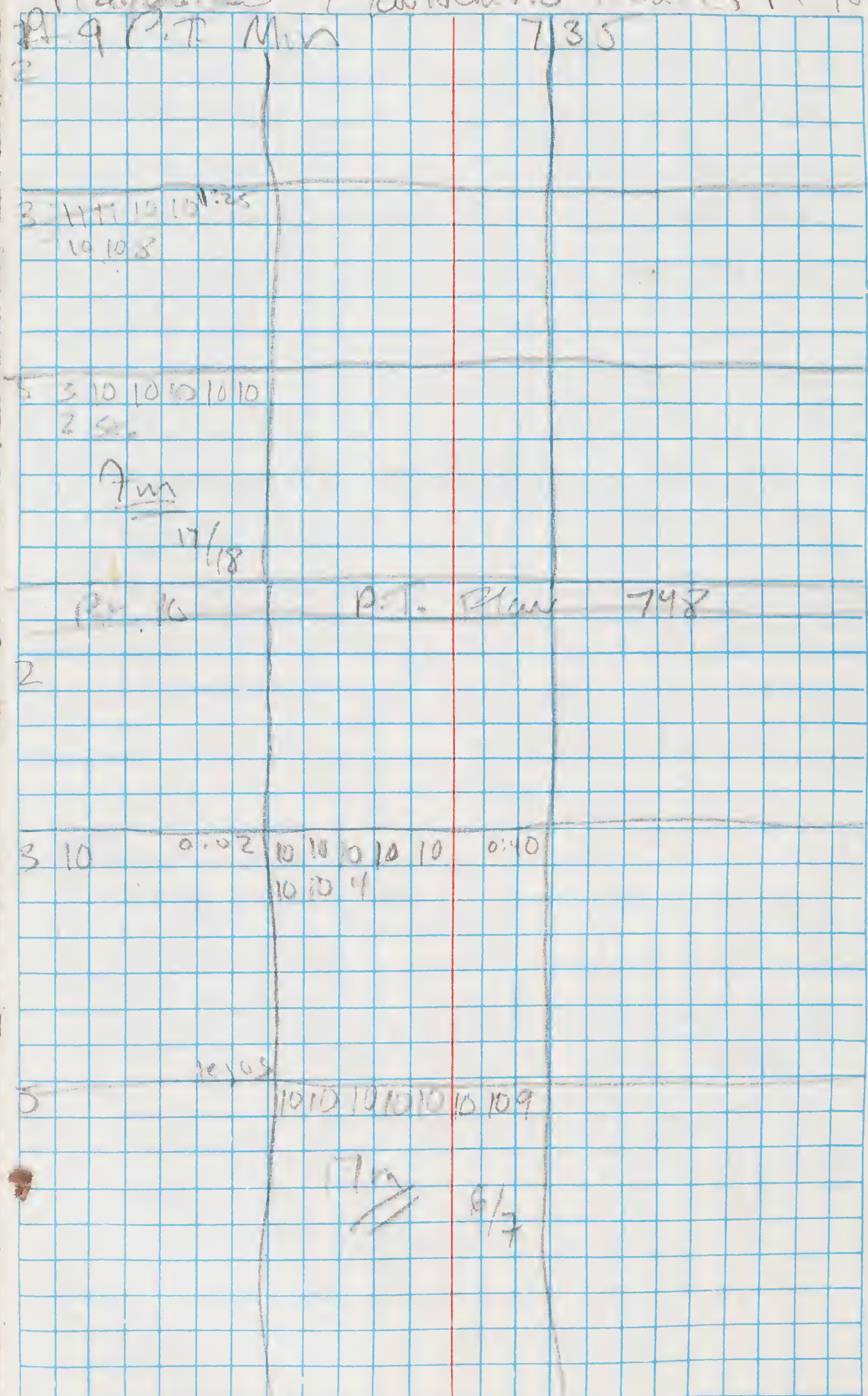
P1 21 1115 1011A De Lago Area
21 FEB Dense Clouds
P1 2 Shale Manchen / Forest (635)
P1 3 Sand Manchen (1) was with pr 1
P1 4 " (1) 13th May
P1 5 " (2) 13th May
P1 6 " (1) 13th May
P1 7 " (1) 13th May
P1 8 " (1) 13th May
P1 9 " (1) 13th May
P1 10 " (1) 13th May
P1 11 " (1) 13th May
P1 12 " (1) 13th May
P1 13 " (1) 13th May
P1 14 " (1) 13th May
P1 15 " (1) 13th May
P1 16 " (1) 13th May
P1 17 " (1) 13th May
P1 18 " (1) 13th May
P1 19 " (1) 13th May
P1 20 " (1) 13th May
P1 21 " (1) 13th May

Scrub Manzanita Pt 16 922
 W. Wren 1 M. Woodpecker 1
 Red Tanager 1 GR. Sp. Wren 1
 Sp. Warbler 11 SR Tanager 1
 W. Wren 1 10/10 10/10 10/10
 L. Wren 1

Pt 12 Bosque Manzanita 909
 W. Wren 1 Red Tanager 1
 Red Tanager 1 10/10 10/10 10/10
 Yellow Red Tanager 11 Jacamar 1
 Scaled Sp. 1 B. W. 10/10 10/10
 Mexican Gold 1 L. Wren 1
 Purple King 1 10/10 10/10 10/10
 Yellow Greenlet 1 10/10 10/10
 S. W. 10/10 10/10

Scrub Manzanita Pt 17 929
 Red Tanager 1 10/10 10/10 10/10
 L. Wren 1 10/10 10/10 10/10
 SR Tanager 1 10/10 10/10 10/10
 4/6 10/10 10/10 10/10
 Sp. Warbler 11 10/10 10/10 10/10
 10/10 10/10 10/10 10/10

23 Feb Bosque 20
 Plainbeaks T. Wren 10/10 10/10 10/10
 Pt 9 Pt 10 Min 7 3 5



651

BB 85-6211

15/6 hd salt

C

| WFL | 95 | 10 | |
|--------------------|-----|-----|-------|
| Bluebreast | 4.9 | 812 | 0.57 |
| Card | 5.7 | 12R | 0.57 |
| Phoebe | 9.7 | 9L | |
| Tit | 9.6 | 10L | |
| OR Emerald | 9.1 | 15R | 10/10 |
| Chimney | 9 | 10L | |
| Tit | 9.2 | 15L | |
| Woodpecker | 9.1 | 9L | 1/5 |
| May Wren | 9.1 | 2R | 1/2 |
| Red Start | 8.9 | 5L | 1/3 |
| 2. Parakeet | 9.1 | 12L | 8/12 |
| Y. Wren | 9.1 | 1L | 1/2 |
| Hummingbird | 9.1 | 12L | 1/12 |
| S. Flycatcher | 9.2 | 20R | |
| Ch. T. Hummingbird | " | 19R | |
| Med Black | " | 20R | |
| N. Waterthrush | 9.1 | 1L | Shiny |
| WFL | 8.7 | 2R | 0.57 |
| Par. Wren | 8.8 | 7L | 10/10 |
| 3. D. D. D. | 8.8 | 7L | 1/2 |
| 3. D. Wren | 8.9 | 8L | |
| Hummingbird | 8.8 | 7L | 1/2 |
| C. Tit | 7.7 | 9R | |
| 2. Med Black | 7.7 | 14L | 1/5 |
| 3. D. D. D. | 7.9 | 11R | |
| WFL | 7.1 | 3L | |

| WFL | 65 | 2R | |
|--------------------|-----|-----|-------|
| Bluebreast | 6.3 | 6L | |
| Card | 6.5 | 20R | |
| Phoebe | 6.7 | 10L | |
| Tit | 5.7 | 3R | 9/5 |
| OR Emerald | 5.1 | 20R | |
| Chimney | 4.9 | 5R | 1/2 |
| Tit | 4.9 | 7L | 1/2 |
| Woodpecker | 4.1 | 20R | 1/2 |
| May Wren | 4.8 | 6R | 1/2 |
| Red Start | 4.8 | 6R | 1/2 |
| Y. Wren | 4.8 | 3R | 1/2 |
| Hummingbird | 4.8 | 4R | 1/2 |
| S. Flycatcher | 4.8 | 8L | 1/4 |
| Ch. T. Hummingbird | 3.8 | 20R | |
| Med Black | 3.3 | 16R | |
| N. Waterthrush | 2.9 | 5L | 1/5 |
| WFL | 2.9 | 15R | 3/3 |
| Par. Wren | 2.8 | 20R | |
| Hummingbird | 2.8 | 4R | 1/9 |
| Ch. T. Hummingbird | 2.7 | 13L | |
| Med Black | 2.1 | 3L | |
| N. Waterthrush | 1.8 | 11L | |
| WFL | 2.2 | 7R | |
| Par. Wren | 2.1 | 2L | 1/5 |
| Hummingbird | 1.6 | 10L | |
| Ch. T. Hummingbird | 1.8 | 8R | 1/2 |
| Med Black | 1.3 | 2R | 1/6 |
| N. Waterthrush | 1.6 | 4R | 20/1 |
| WFL | 1.2 | 0R | 13/16 |
| Par. Wren | 1.2 | 17L | 9/16 |
| Hummingbird | 1.6 | 10R | |
| Ch. T. Hummingbird | 1.2 | 14L | 1/2 |
| Med Black | 1.2 | 7L | |
| N. Waterthrush | 1.2 | 10R | |
| WFL | 1.2 | 14R | |
| Par. Wren | 1.2 | 17L | |

| | | | |
|--------------------|-----------------|--------------|----------------|
| Redstart Th | 6.1 | 8R | 9/10 |
| YBPL Ph | 7.2 | | |
| 2 Mealy Parrot | 6.5 | 8R | 14/14 |
| Redstart Th | 7.3 | 16L | 17/22 |
| VO Flyc h | 8.2 | 0.0 | 18/25 |
| YBPL h | 8.5 | 7R | 18/20 |
| Toucan S | 9.3 | 8L | 10/12 |
| 2 Pr Jay S | 9.1 | 5R | 10/17 |
| BB Woodh h | 9.3 | 15L | |
| Dusky Babb h | 9.2 | 20R | |
| RT Wren h | 9.5 | 9R | |
| YBPL | 10.9 | 9 | 11L |
| 3rd A Tanager h | 10.6 | 5R | |
| Redstart Th | 9.8 | 17R | |
| 2 Trop King h | 10.8 | 0.0 | 12/12 |
| Woods S | 11.1 | 4R | 0/10 |
| 2 Masked Tanager h | " | " | " |
| VO Fly h | 10.9 | 9R | |
| Blk chnapter S | 11.7 | 4R | 9/10 |
| Sumatran | " | " | " |
| Redstart Th | | | |
| Maggi o | 11.7 | 6R | 8/10 |
| Super E | | | |
| W. bill wren | | | |
| 2 Red the Ants Tan | 11.8 | 13R | |
| Lesser Greenlet h | 11.9 | 17R | |
| BB Canard S | 11.5 | 15L | 10/16 |

| | | | |
|-------------------|------|-----|-------|
| Redstart Th | 14.7 | 18L | |
| Toucan h | 15.2 | 17L | |
| YBPL h | 15.5 | 17L | |
| 2 Mealy Parrot | 15.7 | 8R | 18R |
| Redstart Th | 15.6 | 15L | |
| 2 Mealy Parrot | 15.8 | 14R | 14/23 |
| VO Flyc h | 15.8 | 7R | 9/14 |
| YBPL h | 15.8 | 5R | 1/4 |
| 2 Mealy Parrot | 15.9 | 3R | 3/59 |
| YBPL h | 16.2 | 15R | 0/1 |
| Woods S | 16.4 | 20L | |
| YBPL h | 16.6 | 18L | |
| 2 Mealy Parrot | 17.2 | 8L | 10/23 |
| YBPL S | 17.8 | 7L | 20/1 |
| YBPL S | 17.7 | 2L | 10/10 |
| Redstart Th | 17.9 | 15L | |
| Lesser Greenlet h | 17.8 | 18L | |
| VO Fly h | 18.1 | 15L | |
| RT Wren h | 19.7 | 10L | |
| Woods S | | | |
| LEFL 2 | | | |
| YBPL 1 | | | |
| Woods 3 | | | |
| Woods 7 | | | |
| Woods 1 | | | |
| Woods 1 | | | |
| Woods 3 | | | |
| Woods 4 | | | |
| Woods 1 | | | |
| YBPL 4 | | | |
| Sum | | | |

440 923

MILPA 28 FEB 92 Cloudy

| | | | |
|--------------------|-----|-----|-------|
| Yellow Warbler h | 0.5 | SL | 3/3 |
| Greenish Elaenia h | 0.5 | 8R | |
| Yellow Warbler h | 0.1 | 3L | 2/3 |
| Social Flyc | 0.3 | 7R | 5/5 |
| WB Emerald h | 0.8 | WR | |
| Variable Seedeater | 0.8 | 10L | 4/5 |
| Opt h | 1.1 | 4L | |
| Wilson's h | 0.9 | 6R | 2/2 |
| Social Flyc | 0.9 | 16R | |
| Red-bellied h | 0.5 | 6R | Chase |
| 10 BB h/s | 2.1 | 2L | 0.5/1 |
| LEPL h | 2.3 | 19R | |
| Scarlet Rump h | 2.2 | 20L | 4/3 |
| Opt | 2.5 | 6L | 1/2 |
| LEPL h | 2.9 | 4L | |
| Mel. B. Warbler h | 3.3 | 8R | 3/3 |
| WCS h | 3.2 | 20L | 2/2 |
| Wilson's h | 3.5 | SL | |
| C.H. h | 3.6 | 7L | |
| 2 Social Flyc | 4.2 | 8R | 5/3 |
| 7-banded Antshrike | 3.8 | 5R | 1/2 |
| Yellow Warbler h | 4.2 | 10R | 2/3 |
| Sc. Rump h | 3.9 | 10L | 4/3 |
| WCS h | 4.6 | 18R | |
| Wilson's h | 4.2 | 20R | 3/3 |
| GB Sparrow h | 4.6 | 18L | 7/3 |

200
border

| | | | |
|--------------------|------|-----|-----|
| WCS h | 5.1 | 12R | |
| Mel. Blackbird | 7.2 | 20L | 2/3 |
| Wilson's h | 6.7 | 20R | 3/3 |
| WCS h | 7.2 | 20R | 1/2 |
| Yellow Warbler h | 8.1 | 5R | 0/1 |
| Opt h | 8.1 | | |
| Wilson's h | 8.5 | 18R | 1/3 |
| Wilson's h | 7.9 | 13L | 2/3 |
| Wilson's h | 8.2 | 9R | |
| Wilson's h | 8.2 | 9R | 1/1 |
| WCS h | 8.2 | 8R | |
| Wilson's h | 8.2 | 14R | 2/4 |
| Social Flyc | 1 | 1A | |
| Wilson's h | 8.9 | 1L | 1/1 |
| Opt h | 9.4 | 7R | |
| 2 Grayish Salt h/s | 10.5 | 20R | 1/2 |
| Wilson's h | " | " | 1/2 |
| Clay-colored Robin | 10.7 | " | 5/3 |
| Wilson's h | 10.9 | 10R | |
| WCS h | 11.1 | 1L | |
| WCS h | 11.4 | 10L | |
| Opt h | 11.6 | 10R | |
| Wilson's h | 11.8 | 15R | |
| Wilson's h | 11.6 | 19R | 1/2 |
| Wilson's h | " | " | |
| Wilson's h | " | " | |
| Wilson's h | 11.6 | 10R | |
| Wilson's h | 11.9 | 15L | |
| Wilson's h | " | " | |
| Wilson's h | 12.7 | 9R | |
| Wilson's h | 12.3 | 12R | |
| Wilson's h | 12.3 | 9R | |
| Wilson's h | 12.7 | 12R | 1/2 |
| Wilson's h | 12.5 | 1L | |
| Wilson's h | 12.5 | 1L | |
| Wilson's h | 12.7 | 1L | |
| Wilson's h | 12.5 | 1L | |
| Wilson's h | 12.6 | 1L | |

C

| Species | WCS | WTL | WFL | WHL | WHL |
|----------------------|------|-----|-------|-----|-----|
| 2 GB Am s | 15.5 | 5R | 3/3 | | |
| BBG h | 15.5 | 10L | | | |
| 2 Ruddy Land Ducks | 15.8 | 20R | 9/6 | | |
| LEPL h | 15.9 | 7R | | | |
| 5 WCS s | 16.4 | 6L | | | |
| 2 BBG s | " | " | | | |
| House Wren s | 16.7 | 18L | 3/3 | | |
| WFT ♂ | 17.5 | 6R | | | |
| Yellow W. ♂ | 17.5 | 14L | 3/3 | | |
| 2 Canada Geese | 17.9 | 5L | | | |
| Black-bellied Plover | 17.5 | 3L | | | |
| LEPL h | 17.4 | 19L | Chick | | |
| Canada s | 17.6 | 11L | | | |
| 1 BBG s | " | 14L | | | |
| Ruddy Land Ducks | 17.4 | 9L | | | |
| Mourning s | 17.4 | 18L | | | |
| 1 Rock C. Flyc. | 17.1 | 18L | 1/22 | | |
| Common Tody Fly | 17.5 | 8R | | | |
| 3 Blue Grosbeak s | 18.1 | 9L | 1/1 | | |
| BBG h | 18.3 | 11L | | | |
| 2 Ind. Bunting h | 18.4 | 13L | | | |
| LEPL h | 18.7 | 10L | | | |
| Canada s | 19.2 | 17L | 4/3 | | |
| LEPL h | 19.5 | 11R | | | |

[illegible]

| | | | |
|----------------------|------|-----|-------|
| 2 Red C. Ant Tern | 17.6 | 20L | |
| 82 G. W. W. P. L. h | 15.6 | 91 | 12/3 |
| Y/B L h | 15.5 | 82 | |
| 2 W. W. S | 15.2 | 32 | 5/10 |
| Y/B L h | 14.9 | 42 | 1/10 |
| Red L h | 11.7 | 152 | 12/23 |
| R. L. L. P. h | 14.5 | 18L | 4/20 |
| R. L. L. h | 13.8 | 78L | 4/25 |
| M. W. L h | 13.7 | 28L | |
| T. W. L h | 13.3 | 2L | 6/12 |
| R. L. L. h | 12.6 | 15R | |
| 8 B. L. W. L h | 12.2 | 15L | 7/12 |
| W. W. L h | 11.6 | 7R | 4/10 |
| 2 C. W. L h | 11.8 | 18R | |
| M. W. L h | 11.6 | 11L | |
| L. W. L h | 11.6 | 2R | |
| M. W. L h | 11.4 | 10R | |
| W. W. L h | 11.0 | 52 | 10/20 |
| W. W. L h | 10.7 | 10R | |
| L. W. L h | 11.2 | 18R | |
| Sl. W. L h | 10.4 | 9R | 7/10 |
| C. W. L h | " | " | 10/10 |
| M. W. L h | 10.1 | 16L | |
| (W. W. L h) | 10.1 | 14L | 3/10 |
| (W. W. L h) | " | " | |
| Class near P. W. L h | | | |
| M. W. L h | 10.1 | 4R | |

Truncation on back
 11.8 W. W. L h 6/10 truncat
 worth empty

| | | | |
|-----------|-----|-----|-------|
| W. W. L h | 9.5 | 15L | |
| C. W. L h | 7.5 | 152 | |
| W. W. L h | 7.7 | 17R | |
| C. W. L h | 7.3 | 102 | |
| W. W. L h | 7.3 | 20R | |
| W. W. L h | 6.9 | 22 | |
| W. W. L h | 6.3 | 18R | |
| W. W. L h | 5.8 | 13R | |
| W. W. L h | 5.8 | 32 | 6/10 |
| W. W. L h | 5.4 | 18L | |
| W. W. L h | 5.2 | 4R | |
| W. W. L h | 4.5 | 10R | |
| W. W. L h | 3.7 | 2R | |
| W. W. L h | 3.5 | 6 | |
| W. W. L h | 2.9 | 2L | 2/10 |
| W. W. L h | 2.2 | 32 | |
| W. W. L h | 2.2 | 9R | |
| W. W. L h | 2.5 | 16R | |
| W. W. L h | 2.3 | 10L | 15/12 |
| W. W. L h | 2.3 | 10R | |
| W. W. L h | 2.3 | 20R | |
| W. W. L h | 2.3 | 16R | |
| W. W. L h | 1.9 | 9R | |
| W. W. L h | 1.5 | 17R | |
| W. W. L h | 1.2 | | |
| W. W. L h | | | |
| W. W. L h | | | |
| W. W. L h | 1.3 | 10R | |
| W. W. L h | | | |
| W. W. L h | 1.3 | 12 | 7/5 |
| W. W. L h | | | |
| W. W. L h | 1.2 | 2L | 20/12 |
| W. W. L h | 1.2 | 152 | |
| W. W. L h | 1.3 | 11R | |
| W. W. L h | 1.1 | 7L | |
| W. W. L h | 0.9 | 5L | 10/10 |

| | Wt | Wing | Tail |
|-----------------------|------|------|-------|
| 1012 h | 19.7 | 108 | 350 |
| CYT h | 19.5 | 151R | |
| LIT h | 19.2 | 4L | |
| 2nd Bunting S | 18.7 | 101R | |
| " " h | 19.2 | 11L | |
| CYTH | 18.7 | 9L | |
| Hickory q | 17.6 | 1R | 4/3 |
| Chat h | 19.2 | 16L | |
| Brewer's h | 18.7 | 10L | |
| Crab h | 18.3 | 13L | |
| Mourning Dove | 17.5 | 5L | |
| Cardinal s | 17.5 | 7R | |
| LEFL BB BZS | 16.7 | 12 | 4/2 |
| 2nd Bunting S | " | " | " |
| Cardinal S | " | " | " |
| LEFL s | 17.5 | 17L | 4/7 |
| CYTH | 16.5 | 15L | |
| Hickory S | 17.6 | 7L | 2/4 |
| Unidentified bird | 15.1 | 5L | |
| LEFL h | 15.6 | 14R | |
| Wilson's Plover S | 14.8 | 6L | |
| Card s | 15.5 | 3L | |
| " h | 16.1 | 20R | |
| Yellow Warbler h | 14.8 | 14R | |
| Scaled Pigeon S | 14.3 | CL | 2/25 |
| 2000 s | 15.5 | 5L | |
| " " | " | " | " |
| 1012 h | 15.2 | 7R | |
| 1st Hummingbird S | 15.2 | 1L | |
| Gr. Cr. Flyc S | 14.3 | 6L | 12/10 |
| Card h | 14.9 | 8L | |
| BTEat S | 14.3 | 6L | 7/25 |
| LEFL h | 11.5 | 18L | |
| Wood Pewee | 13.5 | 20R | 4/10 |
| Black-throated Blue S | 13.5 | 7 | |
| Chat h | 14.1 | 10R | |
| Wilson's Plover 2/15 | | | |
| Gr. Cr. Flyc 2/25 | | | |
| Wilson's Plover 2/25 | | | |
| Wilson's Plover 2/25 | | | |

| | 16 R | Vermont | 3 | 1 | Lt |
|-----------|------|------------|----|---|----|
| 308 III | | Dipt | 5 | 9 | Lt |
| 129 I | | 2 Vermont | 3 | | Lt |
| 205 I | | " | 3 | | Lt |
| 216 II | | Lep. Larva | 12 | | |
| 520 I | | Sph. | 5 | | |
| 6712 I | | Cus b | 5 | | |
| 217 III | | yBSL | 8 | | |
| 5XIS I | | Bow Web | 1 | | |
| 125 H III | | Gr. G Fly | 2 | | |
| 413 II | | WOTH | 9 | | |
| | | Redar | 3 | | |
| | | Moss | 4 | | |
| | | EFTD | 4 | | |
| | | SUTA | 1 | | |

Russell's Forest 6/11/1964

| | | | | |
|------------------------|---|------|-----|-------|
| 2 B. W. Warbler | h | 19.9 | 14L | 7/12 |
| Sul. fur rump Flyc | s | 19.8 | 7R | 7/12 |
| Long tail Hermit | W | 19.8 | 14L | |
| 2 Buff thr 2nd Gln | h | 18.7 | 6L | |
| 2 Yellow Warblers | h | 18.5 | 7L | |
| 2 Dot winged Antwren | h | 18.7 | 12R | |
| Hummer | h | 18.4 | 6R | 7/9 |
| N. Waterthrush | h | 18.6 | 7L | |
| Cherry Colored Warbler | s | 18.3 | 3R | 7/13 |
| 2 G. C. Warbler | h | 18.3 | 4L | |
| O. B. Sparrow | h | 18.4 | 17L | |
| 2 B. F. Grosbeak | h | 18.1 | 14R | |
| Song sp. Warbler | h | 17.8 | 18R | |
| O. B. Sparrow | s | 17.9 | 8R | |
| Red bl. A. Tanager | h | 17.4 | 20L | |
| B. F. Grosbeak | h | 16.7 | 18L | |
| H. C. Manakin | h | 16.9 | 11L | |
| 2 Sp. pr. Warbler | h | 16.6 | 15R | |
| B. T. Sparrow | h | 16.2 | 6R | |
| Red bl. A. Tanager | h | 16.3 | 17L | 10/11 |
| 2 G. C. Warbler | h | 16.2 | 6L | |
| 2 B. C. Tanager | h | 16.1 | 2L | |
| B. F. Grosbeak | h | 15.8 | 19R | |
| Hummingbird | h | 15.8 | 12L | |
| Dusky Warbler | h | 15.4 | 16L | |
| - where are they all? | | | | |

| | | | |
|--------------------|------|-----|-------|
| B. Gnat h | 15.5 | 14R | |
| Yellow Warbler | 15.3 | 15L | |
| Warbler | 15.3 | 16R | |
| N. Orin. Warbler | 14.9 | 18R | |
| 2 Yellow Warblers | 14.5 | 20R | |
| Pink h | 14.9 | 20R | |
| Song sp. Warbler | 14.8 | 20R | |
| Red bl. A. Tanager | 14.2 | 4L | 17/18 |
| L. Greenlet | 14.1 | 6L | |
| Y. Euphonia | 14.1 | 10L | |
| Red bl. A. Tanager | 13.9 | 11R | |
| 2 B. F. Grosbeak | 13.3 | 6L | |
| 1 B. Gnat h | 13.7 | 14L | |
| 2 B. Gnat h | 13.7 | 13R | 13/14 |
| S. Yellow Warbler | 12.3 | 1R | |
| Long tail Hermit | 11.7 | 3L | |
| Song sp. Flyc | 11.8 | 1L | |
| L. Greenlet | 11.7 | 8L | |
| 2 B. F. Grosbeak | 11.7 | 11R | |
| 2 B. F. Grosbeak | 11.5 | 18L | |
| R. T. Hummingbird | 11.3 | 7L | |
| O. B. Sparrow | 11.3 | 1L | |
| L. Greenlet | 11.2 | 1R | |
| 2 B. F. Grosbeak | 10.7 | 17L | 10/11 |
| Red bl. A. Tanager | 10.5 | 9L | 10/11 |
| Long tail Hermit | 9.8 | 2R | |
| 2 B. F. Grosbeak | 9.8 | 5L | |
| Y. Euphonia | 10.1 | 20R | |
| B. F. Grosbeak | 9.3 | 15L | |
| 2 B. C. Tanager | 9.1 | 10R | |
| 1 B. Gnat h | 8.8 | 4R | |
| 2 B. F. Grosbeak | 8.8 | 3L | |
| 2 B. F. Grosbeak | 8.5 | 14L | |
| Y. Euphonia | 7.6 | 8L | |
| Long tail Hermit | 7.9 | 3L | |
| G. C. Warbler | 7.1 | 10R | |
| B. C. Tanager | 6.9 | 12L | 10/11 |
| Song sp. Flyc | 6.3 | 16L | 10/11 |
| 2 B. F. Grosbeak | 5.9 | 16L | |
| 1 B. Gnat h | 5.8 | 5L | |

Engel 76

Aug 10-19

16. $15 - \frac{7}{3}$

on the side of river

Pt 24 850 35%

| | |
|-----------------|--|
| Wilson's 1 (1) | Redstart ^{right wing to each side} |
| Viol Trogon (1) | Pt Hummer 1 |
| YRFL (1) | Yellow Warbler 10/10 (1) |
| ATFL (1) | Red eyed Vireo (1) |
| CYT 1 | BC Warbler (1) |
| Br Jay (1) | Nuthatch (1) |
| GO Warbler (1) | GR Sparrow 1 |
| WCS | |

Pt 25 904 30%

| | |
|-------------------------|------------------|
| WCS 10 | DC Flyc 1 |
| GT Grackle (1) | M Blackbird (1) |
| LEFL 1 | Orch Oriole 1 |
| + Violaceous Trogon (1) | Yellow Warbler 1 |
| BRGI (1), 1 | Br Cr Fly 1 |
| Scrub Wren (1) | B. Ash-thr (1) |
| Social Fly (1) | Br Warbler 1 |

Pt 26 920 35%

| | |
|------------------|--------------------|
| Yellow Warbler 1 | + Viol Trogon (1) |
| LEFL 1 | + Coll. Trogon (1) |
| Nuthatch (1) | M. Blackbird (1) |
| YRFL (1) | + Sub Wren (1) |
| GT Grackle (1) | W. Goby 1 |
| Warbler 1 | Redstart 1 |
| GO Warbler (1) | Pt Hummer (1) |
| BT Salt (1) | |

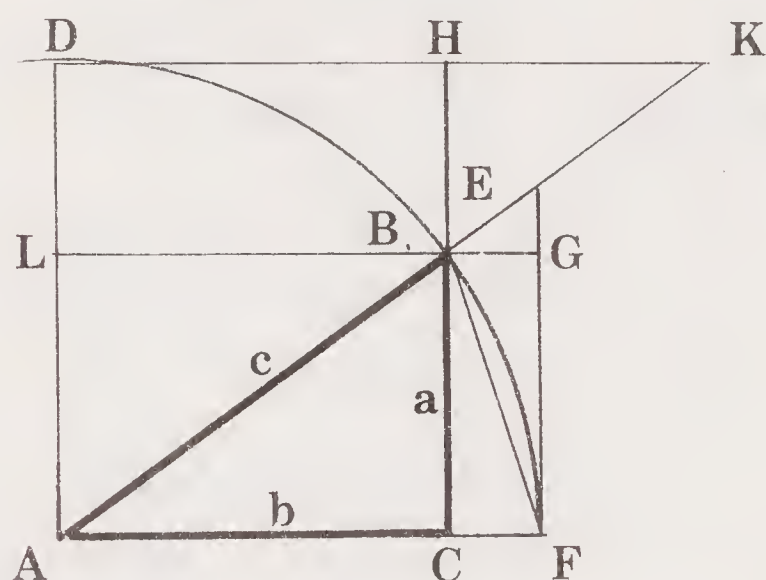
TABLE I

FUNCIONES TRIGONOMETRICAS

Sea el ángulo BAC (Fig. 1) = A = arco BF, y el radio $AB = AF = AD = 1$.

Entonces:

| | |
|---------|----------|
| sen | $A = BC$ |
| cos | $A = AC$ |
| tg | $A = FE$ |
| cot | $A = DK$ |
| sec | $A = AE$ |
| cosec | $A = AK$ |
| senver | $A = CF$ |
| cosvers | $A = LD$ |
| exsec | $A = BE$ |
| coexsec | $A = BK$ |
| cuerda | $A = BF$ |



(En el triángulo recto) ABC (Fig. 1), sea el ángulo $BAC = A$, ABC y $ACB = C = 90^\circ$. Haga el lado $BC = a$, $AC = B$ y $AB = c$.

Entonces tenemos que:

| | | | |
|-----------|---------------------|----------------------------|---|
| 1.-sen | $A = \frac{a}{c}$ | $= \cos$ | B |
| 2.-sen | $B = \frac{b}{c}$ | $= \cos$ | A |
| 3.-tg | $A = \frac{a}{b}$ | $= \cot$ | B |
| 4.-tg | $B = \frac{b}{a}$ | $= \cot$ | A |
| 5.-sec | $A = \frac{c}{b}$ | $= \operatorname{cosec}$ | B |
| 6.-sec | $B = \frac{c}{a}$ | $= \operatorname{cosec}$ | A |
| 7.-senver | $A = \frac{c-b}{c}$ | $= \operatorname{cosver}$ | B |
| 8.-senver | $B = \frac{c-a}{c}$ | $= \operatorname{cosver}$ | A |
| 9.-exsec | $A = \frac{c-b}{b}$ | $= \operatorname{coexsec}$ | B |
| 10.-exsec | $B = \frac{c-a}{a}$ | $= \operatorname{coexsec}$ | A |

$$\begin{aligned} 11.- a &= c \operatorname{sen} A = c \cos B \\ &= b \operatorname{tg} A = b \cot B \\ &= \sqrt{c^2 \cdot b^2} \\ &= \sqrt{(c + b)(c - b)} \end{aligned}$$

TABLA I

$$14. \sin A = \frac{1}{\operatorname{cosec} A} = \operatorname{tg} A \cos A; \therefore \cos A = \frac{1}{\sec A} = \cot A \sin A$$

15. $\operatorname{tg} A = \frac{\operatorname{sen} A}{\cos A} = \frac{1}{\cot A}$; $\therefore \cot A = \frac{\cos A}{\operatorname{sen} A} = \frac{1}{\operatorname{tg} A}$

$$16. \sin^2 A = 1 - \cos^2 A = \sin^2 \frac{1}{2} A = 2 \sin^2 \left(\frac{1}{2} A \right)$$

17. $\sec A = \frac{1}{\cos A} = \sqrt{1 + \tan^2 A}$; $\therefore \operatorname{cosec} A = \frac{1}{\sin A} = \sqrt{1 + \cot^2 A}$

$$18. \operatorname{exsec} A = \sec A - 1 = \frac{\operatorname{tg} A \operatorname{tg} \frac{1}{2} A}{\cos A} = \frac{\operatorname{sen} A}{\cos A}$$

FORMULAS DE LA CURVA

Caso 1. Cuando D representa el ángulo correspondiente a una cuerda de 20 m.

$$19. R = \frac{10}{\sin(D/2)} ; \therefore \sin(D/2) = \frac{10}{R}$$

Caso 2. Cuando D representa el ángulo correspondiente a dos cuerdas consecutivas de 10 m cada una.

$$20. R = \frac{5}{\sin(D/4)} ; \therefore \sin(D/4) = \frac{5}{R}$$

21. Longitud de la curva $L = 20 \frac{1}{D}$ (para $R \geq 100$ mts)

22. Angulo intersectado $I = \frac{DL}{20}$

23. Grado de la curva $D = 20$

24. Tamaño de la tangente $T = R \tan(l/2)$

25. Cuerda del arco $C = 2R \sin(l/2)$

26. Ordenada media $M = R_{senver}(l/2)$

27. Externa $E = R \times \sec(I/2)$

28. Radio $R = T \cot(I/2)$

29. Tangente a la curva de 1 grado = $1145.9 \text{ tg}(l/2)$

30. Externa a la curva de 1 grado = $1145.9 \text{ exsec}(I/2)$

$$= T \operatorname{tg}(1/4) = 45.9 \operatorname{tg}(1/4) \operatorname{tg}(1/2)$$

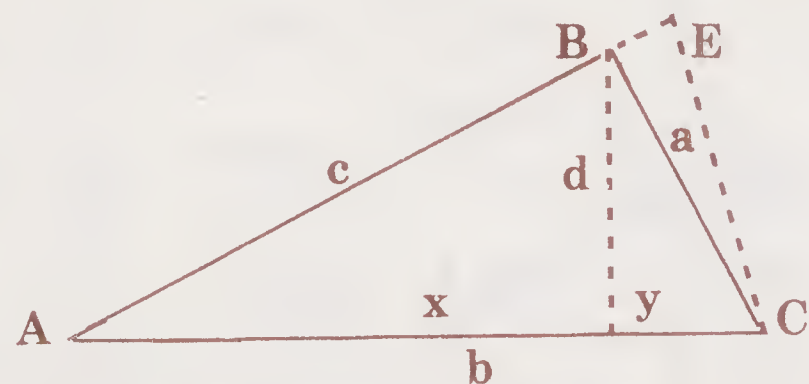
TABLA I

Fórmulas Trigonométricas

SOLUCION DE TRIANGULOS OBLICUOS

Para evitar confusión de símbolos; "A" y "a" representan el ángulo más pequeño y su lado opuesto respectivamente. "B" y "b" los mayores, dejando a "C" y "c" para representar a los intermedios. Sin embargo, este orden no siempre puede ser observado con las fórmulas 34 y 35.

Fig. 2



| | DADO | PEDIDO | FORMULAS |
|----|-----------|-----------------|--|
| 31 | Dos Ang's | 3er Ang. | 3er Ang. = 180 - (Suma de los dos ang. dados) |
| 32 | A, B, a | b | $b = \frac{a \sin B}{\sin A}$; $\therefore c = \frac{a \sin C}{\sin A}$ |
| | B, C, b | c | $c = \frac{b \sin C}{\sin B}$; $\therefore a = \frac{b \sin A}{\sin B}$ |
| | C, A, c | a | $a = \frac{c \sin A}{\sin C}$; $\therefore b = \frac{c \sin B}{\sin C}$ |
| 33 | a, b, c | A, C | Considere el lado más largo "b" dividido por la normal "d" en dos segmentos "x" e "y". Si "d" parte de "B" se tiene la siguiente proporción: $\frac{b}{c+a} = \frac{c-a}{x-y}$ $\therefore x-y = \frac{(c+a)(c-a)}{b}$ $\therefore \cos A = \frac{x}{c} \cos C = \frac{y}{a}$ $\cos A = \frac{b^2 + c^2 - a^2}{2bc} \cos C = \frac{b^2 + a^2 - c^2}{2ab}$ |
| 34 | a, B, c | $\frac{C-A}{2}$ | $\operatorname{tg} \frac{C-A}{2} = \frac{c-a}{c+a} \operatorname{tg} \frac{C+A}{2}$ |
| | A, b, c | C, a | $c \cos A = x$; $b-x = y$; $c \sin A = d$ $\therefore \operatorname{tg} C = \frac{d}{y}$; $a = \frac{C}{\sin C}$ |
| 35 | a, b, A | B, c | $\sin B = \frac{b \sin A}{a}$; $c = \frac{a \sin C}{\sin A}$ |

Recuerde: Un ángulo y su suplemento tienen el mismo seno. Como B y E Fig. 2

TABLA II

Radios de las curvas métricas

| Grados por cadena de 20 m. | | | | D. | R. | Log. R. | d. m. |
|----------------------------|--------|-----------|---------------------------|-------|--------|-----------|-------|
| D. | R. | Log. R. | Deflexión por metro d. m. | | | | |
| 0° 10 | 6875.5 | 3.8373 04 | 0.25 | 2° 0 | 572.99 | 2.7581 45 | 3.00 |
| 12 | 5729.6 | 7581 23 | 0.30 | 2 | 563.59 | 7509 67 | 3.05 |
| 14 | 4911.1 | 6911 76 | 0.35 | 4 | 554.51 | 7439 06 | 3.10 |
| 16 | 4297.2 | 6331 84 | 0.40 | 6 | 545.70 | 7369 58 | 3.15 |
| 18 | 3819.7 | 5820 32 | 0.45 | 8 | 537.18 | 7301 19 | 3.20 |
| 20 | 3437.8 | 5362 74 | 0.50 | 10 | 528.92 | 7233 86 | 3.25 |
| 22 | 3125.2 | 4948 82 | 0.55 | 12 | 520.90 | 7167 57 | 3.30 |
| 24 | 2864.8 | 4570 94 | 0.60 | 14 | 513.13 | 7102 27 | 3.35 |
| 26 | 2644.4 | 4223 32 | 0.65 | 16 | 505.58 | 7037 93 | 3.40 |
| 28 | 2455.5 | 3901 47 | 0.70 | 18 | 498.26 | 6974 54 | 3.45 |
| 30 | 2291.8 | 3601 84 | 0.75 | 20 | 491.14 | 6912 06 | 3.50 |
| 32 | 2148.6 | 3321 55 | 0.80 | 22 | 484.22 | 6850 46 | 3.55 |
| 34 | 2022.2 | 3058 27 | 0.85 | 24 | 477.50 | 6789 73 | 3.60 |
| 36 | 1909.9 | 2810 03 | 0.90 | 26 | 470.96 | 6729 84 | 3.65 |
| 38 | 1809.3 | 2575 23 | 0.95 | 28 | 464.60 | 6670 76 | 3.70 |
| 40 | 1718.9 | 2352 46 | 1.00 | 30 | 458.40 | 6612 47 | 3.75 |
| 42 | 1637.0 | 2140 57 | 1.05 | 32 | 452.37 | 6554 96 | 3.80 |
| 44 | 1562.6 | 1938 54 | 1.10 | 34 | 446.50 | 6498 19 | 3.85 |
| 46 | 1494.7 | 1745 49 | 1.15 | 36 | 440.78 | 6442 17 | 3.90 |
| 48 | 1432.4 | 1560 66 | 1.20 | 38 | 435.20 | 6386 85 | 3.95 |
| 50 | 1371.1 | 1383 38 | 1.25 | 40 | 429.76 | 6332 23 | 4.00 |
| 52 | 1322.2 | 1213 05 | 1.30 | 42 | 424.45 | 6278 29 | 4.05 |
| 54 | 1273.3 | 1049 15 | 1.35 | 44 | 419.28 | 6225 01 | 4.10 |
| 56 | 1227.8 | 0891 21 | 1.40 | 46 | 414.23 | 6172 38 | 4.15 |
| 58 | 1185.4 | 0738 81 | 1.45 | 48 | 409.30 | 6120 38 | 4.20 |
| 1° 0 | 1145.9 | 0591 58 | 1.50 | 50 | 404.48 | 6068 99 | 4.25 |
| 2 | 1109.0 | 0449 18 | 1.55 | 52 | 399.78 | 6018 21 | 4.30 |
| 4 | 1074.3 | 0311 30 | 1.60 | 54 | 395.19 | 5968 01 | 4.35 |
| 6 | 1041.8 | 0177 67 | 1.65 | 56 | 390.70 | 5918 39 | 4.40 |
| 8 | 1011.1 | 0048 02 | 1.70 | 58 | 386.31 | 5869 32 | 4.45 |
| 10 | 982.23 | 2.9922 13 | 1.75 | 3° 0' | 382.02 | 5820 81 | 4.50 |
| 12 | 954.95 | 9799 79 | 1.80 | 2 | 377.82 | 5772 83 | 4.55 |
| 14 | 929.14 | 9680 81 | 1.85 | 4 | 373.71 | 5725 38 | 4.60 |
| 16 | 904.69 | 9564 99 | 1.90 | 6 | 369.70 | 5678 44 | 4.65 |
| 18 | 881.49 | 9452 19 | 1.95 | 8 | 365.76 | 5632 00 | 4.70 |
| 20 | 859.46 | 9342 24 | 2.00 | 10 | 361.91 | 5586 06 | 4.75 |
| 22 | 838.49 | 9235 00 | 2.05 | 12 | 358.15 | 5540 59 | 4.80 |
| 24 | 818.53 | 9130 35 | 2.10 | 14 | 354.45 | 5495 60 | 4.85 |
| 26 | 799.50 | 9028 17 | 2.15 | 16 | 350.84 | 5451 07 | 4.90 |
| 28 | 781.33 | 8928 33 | 2.20 | 18 | 347.30 | 5406 99 | 4.95 |
| 30 | 763.97 | 8830 74 | 2.25 | 20 | 343.82 | 5363 35 | 5.00 |
| 32 | 747.36 | 8735 29 | 2.30 | 22 | 340.42 | 5320 15 | 5.05 |
| 34 | 731.46 | 8641 90 | 2.35 | 24 | 337.08 | 5277 37 | 5.10 |
| 36 | 716.22 | 8550 47 | 2.40 | 26 | 333.81 | 5235 02 | 5.15 |
| 38 | 701.60 | 8460 93 | 2.45 | 28 | 330.60 | 5193 07 | 5.20 |
| 40 | 687.57 | 8373 19 | 2.50 | 30 | 327.46 | 5151 52 | 5.25 |
| 42 | 674.09 | 8287 20 | 2.55 | 32 | 324.37 | 5110 37 | 5.30 |
| 44 | 661.13 | 8202 87 | 2.60 | 34 | 321.34 | 5069 60 | 5.35 |
| 46 | 648.66 | 8120 15 | 2.65 | 36 | 318.36 | 5029 22 | 5.40 |
| 48 | 636.65 | 8038 98 | 2.70 | 38 | 315.44 | 4989 20 | 5.45 |
| 50 | 625.07 | 7959 30 | 2.75 | 40 | 312.58 | 4949 55 | 5.50 |
| 52 | 613.91 | 7881 05 | 2.80 | 42 | 309.76 | 4910 26 | 5.55 |
| 54 | 603.14 | 7804 19 | 2.85 | 44 | 307.00 | 4871 33 | 5.60 |
| 56 | 592.74 | 7728 66 | 2.90 | 46 | 304.28 | 4832 74 | 5.65 |
| 58 | 582.70 | 7654 43 | 2.95 | 48 | 301.61 | 4794 49 | 5.70 |
| | | | | 50 | 298.99 | 4756 57 | 5.75 |
| | | | | 52 | 296.41 | 4718 98 | 5.80 |
| | | | | 54 | 293.88 | 4681 72 | 5.85 |
| | | | | 56 | 291.39 | 4644 77 | 5.90 |
| | | | | 58 | 288.94 | 4608 14 | 5.95 |

TABLA II

Radios de las curvas métricas

| D. | R. | Log. R. | d. m. | D. | R. | Log. R. | d. m. |
|-------|--------|------------|-------|-------|--------|------------|-------|
| 4° 0' | 286.54 | 2. 4571 81 | 6.00' | 6° 0' | 191.07 | 2. 2812 00 | 9.00' |
| 2 | 284.17 | 4535 78 | 6.05 | 2 | 190.02 | 2787 96 | 9.05 |
| 4 | 281.84 | 4500 05 | 6.10 | 4 | 188.98 | 2764 05 | 9.10 |
| 6 | 279.55 | 4464 61 | 6.15 | 6 | 187.94 | 2740 28 | 9.15 |
| 8 | 277.30 | 4429 46 | 6.20 | 8 | 186.92 | 2716 63 | 9.20 |
| 10 | 275.08 | 4394 60 | 6.25 | 10 | 185.91 | 2693 12 | 9.25 |
| 12 | 272.90 | 4360 01 | 6.30 | 12 | 184.92 | 2669 73 | 9.30 |
| 14 | 270.75 | 4325 69 | 6.35 | 14 | 183.93 | 2646 46 | 9.35 |
| 16 | 268.64 | 4291 64 | 6.40 | 16 | 182.95 | 2623 33 | 9.40 |
| 18 | 266.55 | 4257 86 | 6.45 | 18 | 181.98 | 2600 31 | 9.45 |
| 20 | 264.51 | 4224 34 | 6.50 | 20 | 181.03 | 2577 41 | 9.50 |
| 22 | 262.49 | 4191 08 | 6.55 | 22 | 180.08 | 2554 64 | 9.55 |
| 24 | 260.50 | 4158 07 | 6.60 | 24 | 179.14 | 2531 98 | 9.60 |
| 26 | 258.54 | 4125 31 | 6.65 | 26 | 178.22 | 2509 45 | 9.65 |
| 28 | 256.61 | 4092 79 | 6.70 | 28 | 177.30 | 2487 03 | 9.70 |
| 30 | 254.71 | 4060 52 | 6.75 | 30 | 176.39 | 2464 72 | 9.75 |
| 32 | 252.84 | 4028 48 | 6.80 | 32 | 175.49 | 2442 53 | 9.80 |
| 34 | 251.00 | 3996 68 | 6.85 | 34 | 174.60 | 2420 45 | 9.85 |
| 36 | 249.18 | 3965 11 | 6.90 | 36 | 173.72 | 2398 49 | 9.90 |
| 38 | 247.39 | 3933 77 | 6.95 | 38 | 172.85 | 2376 63 | 9.95 |
| 40 | 245.62 | 3902 66 | 7.00 | 40 | 171.98 | 2354 89 | 10.00 |
| 42 | 243.88 | 3871 77 | 7.05 | 42 | 171.13 | 2333 25 | 10.05 |
| 44 | 242.16 | 3841 09 | 7.10 | 44 | 170.28 | 2311 72 | 10.10 |
| 46 | 240.47 | 3810 63 | 7.15 | 46 | 169.45 | 2290 30 | 10.15 |
| 48 | 238.80 | 3780 38 | 7.20 | 48 | 168.62 | 2268 99 | 10.20 |
| 50 | 237.16 | 3750 35 | 7.25 | 50 | 167.79 | 2247 77 | 10.25 |
| 52 | 235.53 | 3720 52 | 7.30 | 52 | 166.98 | 2226 67 | 10.30 |
| 54 | 233.93 | 3690 89 | 7.35 | 54 | 166.18 | 2205 66 | 10.35 |
| 56 | 232.35 | 3661 46 | 7.40 | 56 | 165.38 | 2184 76 | 10.40 |
| 58 | 230.70 | 3632 24 | 7.45 | 58 | 164.59 | 2163 95 | 10.45 |
| 5° 0' | 229.26 | 3603 20 | 7.50 | 7° 0' | 163.80 | 2143 25 | 10.50 |
| 2 | 227.74 | 3574 37 | 7.55 | 2 | 163.03 | 2122 64 | 10.55 |
| 4 | 226.24 | 3545 72 | 7.60 | 4 | 162.26 | 2102 13 | 10.60 |
| 6 | 224.76 | 3517 26 | 7.65 | 6 | 161.50 | 2081 72 | 10.65 |
| 8 | 223.30 | 3488 98 | 7.70 | 8 | 160.75 | 2061 41 | 10.70 |
| 10 | 221.87 | 3460 89 | 7.75 | 10 | 160.00 | 2041 19 | 10.75 |
| 12 | 220.44 | 3432 98 | 7.80 | 12 | 159.26 | 2021 06 | 10.80 |
| 14 | 219.04 | 3405 25 | 7.85 | 14 | 158.53 | 2001 03 | 10.85 |
| 16 | 217.66 | 3377 70 | 7.90 | 16 | 157.80 | 1981 08 | 10.90 |
| 18 | 216.29 | 3350 32 | 7.95 | 18 | 157.08 | 1961 24 | 10.95 |
| 20 | 214.94 | 3323 11 | 8.00 | 20 | 156.37 | 1941 48 | 11.00 |
| 22 | 213.60 | 3296 07 | 8.05 | 22 | 155.66 | 1921 81 | 11.05 |
| 24 | 212.29 | 3269 20 | 8.10 | 24 | 154.96 | 1902 23 | 11.10 |
| 26 | 210.98 | 3242 49 | 8.15 | 26 | 154.27 | 1882 74 | 11.15 |
| 28 | 209.70 | 3215 95 | 8.20 | 28 | 153.58 | 1863 33 | 11.20 |
| 30 | 208.43 | 3189 57 | 8.25 | 30 | 152.90 | 1844 01 | 11.25 |
| 32 | 207.17 | 3163 35 | 8.30 | 32 | 152.22 | 1824 78 | 11.30 |
| 34 | 205.93 | 3137 28 | 8.35 | 34 | 151.55 | 1805 64 | 11.35 |
| 36 | 204.71 | 3111 37 | 8.40 | 36 | 150.89 | 1786 57 | 11.40 |
| 38 | 203.50 | 3085 62 | 8.45 | 38 | 150.23 | 1767 60 | 11.45 |
| 40 | 202.30 | 3060 02 | 8.50 | 40 | 149.58 | 1748 70 | 11.50 |
| 42 | 201.12 | 3034 57 | 8.55 | 42 | 148.93 | 1729 89 | 11.55 |
| 44 | 199.95 | 3009 27 | 8.60 | 44 | 148.29 | 1711 16 | 11.60 |
| 46 | 198.80 | 2984 11 | 8.65 | 46 | 147.66 | 1692 51 | 11.65 |
| 48 | 197.66 | 2959 10 | 8.70 | 48 | 147.03 | 1673 93 | 11.70 |
| 50 | 196.53 | 2934 23 | 8.75 | 50 | 146.40 | 1655 44 | 11.75 |
| 52 | 195.41 | 2909 51 | 8.80 | 52 | 145.78 | 1637 03 | 11.80 |
| 54 | 194.31 | 2884 93 | 8.85 | 54 | 145.17 | 1618 70 | 11.85 |
| 56 | 193.22 | 2860 48 | 8.90 | 56 | 144.56 | 1600 44 | 11.90 |
| 58 | 192.14 | 2836 17 | 8.95 | 58 | 143.95 | 1582 26 | 11.95 |

TABLA II

Radios de las curvas métricas

| D. | R. | Log. R. | d. m. | D. | R. | Log. R. | d. m. |
|-------|--------|------------|-------|--------|--------|------------|-------|
| 8° 0' | 143.36 | 2. 1564 15 | 12.00 | 10° 0' | 114.74 | 2. 0597 04 | 15.00 |
| 2 | 142.76 | 1546 13 | 12.05 | 2 | 114.36 | 0582 62 | 15.05 |
| 4 | 142.17 | 1528 17 | 12.10 | 4 | 113.98 | 0568 26 | 15.10 |
| 6 | 141.59 | 1510 29 | 12.15 | 6 | 113.60 | 0553 94 | 15.15 |
| 8 | 141.01 | 1492 49 | 12.20 | 8 | 113.23 | 0539 67 | 15.20 |
| 10 | 140.44 | 1474 75 | 12.25 | 10 | 112.86 | 0525 44 | 15.25 |
| 12 | 139.87 | 1457 09 | 12.30 | 12 | 112.49 | 0511 26 | 15.30 |
| 14 | 139.30 | 1439 51 | 12.35 | 14 | 112.13 | 0497 13 | 15.35 |
| 16 | 138.74 | 1421 99 | 12.40 | 16 | 111.76 | 0483 04 | 15.40 |
| 18 | 138.18 | 1404 54 | 12.45 | 18 | 111.40 | 0469 00 | 15.45 |
| 20 | 137.63 | 1387 17 | 12.50 | 20 | 111.05 | 0455 01 | 15.50 |
| 22 | 137.08 | 1369 86 | 12.55 | 22 | 110.69 | 0441 06 | 15.55 |
| 24 | 136.54 | 1352 62 | 12.60 | 24 | 110.34 | 0427 16 | 15.60 |
| 26 | 136.00 | 1335 45 | 12.65 | 26 | 109.98 | 0413 30 | 15.65 |
| 28 | 135.47 | 1318 35 | 12.70 | 28 | 109.63 | 0399 48 | 15.70 |
| 30 | 134.94 | 1301 32 | 12.75 | 30 | 109.29 | 0385 71 | 15.75 |
| 32 | 134.41 | 1284 35 | 12.80 | 32 | 108.94 | 0371 99 | 15.80 |
| 34 | 133.89 | 1267 45 | 12.85 | 34 | 108.60 | 0358 30 | 15.85 |
| 36 | 133.37 | 1250 62 | 12.90 | 36 | 108.26 | 0344 66 | 15.90 |
| 38 | 132.86 | 1233 85 | 12.95 | 38 | 107.92 | 0331 07 | 15.95 |
| 40 | 132.35 | 1217 15 | 13.00 | 40 | 107.58 | 0317 51 | 16.00 |
| 42 | 131.84 | 1200 51 | 13.05 | 42 | 107.25 | 0304 00 | 16.05 |
| 44 | 131.34 | 1183 93 | 13.10 | 44 | 106.92 | 0290 53 | 16.10 |
| 46 | 130.84 | 1167 42 | 13.15 | 46 | 106.59 | 0277 11 | 16.15 |
| 48 | 130.35 | 1150 97 | 13.20 | 48 | 106.26 | 0263 72 | 16.20 |
| 50 | 129.85 | 1134 58 | 13.25 | 50 | 105.93 | 0250 38 | 16.25 |
| 52 | 129.37 | 1118 26 | 13.30 | 52 | 105.61 | 0237 07 | 16.30 |
| 54 | 128.88 | 1101 99 | 13.35 | 54 | 105.29 | 0223 81 | 16.35 |
| 56 | 128.40 | 1085 79 | 13.40 | 56 | 104.97 | 0210 59 | 16.40 |
| 58 | 127.93 | 1069 65 | 13.45 | 58 | 104.65 | 0197 41 | 16.45 |
| 9° 0' | 127.45 | 1053 57 | 13.50 | 11° 0' | 104.33 | 0184 27 | 16.50 |
| 2 | 126.99 | 1037 54 | 13.55 | 2 | 104.02 | 0171 17 | 16.55 |
| 4 | 126.52 | 1021 58 | 13.60 | 4 | 103.71 | 0158 11 | 16.60 |
| 6 | 126.06 | 1005 68 | 13.65 | 6 | 103.40 | 0145 09 | 16.65 |
| 8 | 125.60 | 0989 83 | 13.70 | 8 | 103.09 | 0132 11 | 16.70 |
| 10 | 125.14 | 0974 04 | 13.75 | 10 | 102.78 | 0119 17 | 16.75 |
| 12 | 124.69 | 0958 31 | 13.80 | 12 | 102.48 | 0106 26 | 16.80 |
| 14 | 124.24 | 0942 64 | 13.85 | 14 | 102.17 | 0093 40 | 16.85 |
| 16 | 123.79 | 0927 03 | 13.90 | 16 | 101.87 | 0080 57 | 16.90 |
| 18 | 123.35 | 0911 47 | 13.95 | 18 | 101.57 | 0067 78 | 16.95 |
| 20 | 122.91 | 0895 96 | 14.00 | 20 | 101.28 | 0055 03 | 17.00 |
| 22 | 122.48 | 0890 51 | 14.05 | 22 | 100.98 | 0042 32 | 17.05 |
| 24 | 122.04 | 0865 12 | 14.10 | 24 | 100.68 | 0029 64 | 17.10 |
| 26 | 121.61 | 0849 78 | 14.15 | 26 | 100.39 | 0017 01 | 17.15 |
| 28 | 121.19 | 0834 50 | 14.20 | 28 | 100.10 | 0004 40 | 17.20 |
| 30 | 120.76 | 0819 27 | 14.25 | 30 | 99.69 | 1. 9986 37 | 17.25 |
| 32 | 120.34 | 0804 09 | 14.30 | 32 | 99.40 | 9973 81 | 17.30 |
| 34 | 119.92 | 0788 97 | 14.35 | 34 | 99.11 | 9961 29 | 17.35 |
| 36 | 119.51 | 0773 90 | 14.40 | 36 | 98.83 | 9948 80 | 17.40 |
| 38 | 119.09 | 0758 88 | 14.45 | 38 | 98.55 | 9936 35 | 17.45 |
| 40 | 118.68 | 0743 91 | 14.50 | 40 | 98.26 | 9923 93 | 17.50 |
| 42 | 118.28 | 0729 00 | 14.55 | 42 | 97.98 | 9911 55 | 17.55 |
| 44 | 117.87 | 0714 13 | 14.60 | 44 | 97.71 | 9899 21 | 17.60 |
| 46 | 117.47 | 0699 32 | 14.65 | 46 | 97.43 | 9886 90 | 17.65 |
| 48 | 117.07 | 0684 56 | 14.70 | 48 | 97.15 | 9874 63 | 17.70 |
| 50 | 116.68 | 0669 85 | 14.75 | 50 | 96.88 | 9862 38 | 17.75 |
| 52 | 116.28 | 0655 19 | 14.80 | 52 | 96.61 | 9850 18 | 17.80 |
| 54 | 115.89 | 0640 58 | 14.85 | 54 | 96.34 | 9838 01 | 17.85 |
| 56 | 115.51 | 0626 02 | 14.90 | 56 | 96.07 | 9825 87 | 17.90 |
| 58 | 115.12 | 0611 50 | 14.95 | 58 | 95.80 | 9813 77 | 17.95 |

* Curvas de menos de 100 m de radio deben localizarse por medias cadenas o cuerdas de 10 m

TABLA II

Radios de las curvas métricas

| D. | R. | Log. R. | d. m. | D. | R. | Log. R. | d. m. |
|--------|-------|------------|--------|--------|-------|------------|-------|
| 12° 0' | 95.54 | 1. 9801 70 | 18.00' | 14° 0' | 81.90 | 1. 9132 95 | 21.00 |
| 2 | 95.27 | 9789 66 | 18.05 | 10 | 80.94 | 9081 62 | 21.25 |
| 4 | 95.01 | 9777 66 | 18.10 | 20 | 80.00 | 9030 89 | 21.50 |
| 6 | 94.75 | 9765 69 | 18.15 | 30 | 79.08 | 8980 74 | 21.75 |
| 8 | 94.49 | 9753 75 | 18.20 | 40 | 78.18 | 8931 18 | 22.00 |
| 10 | 94.23 | 9741 85 | 18.25 | 50 | 77.31 | 8882 17 | 22.25 |
| 12 | 93.97 | 9729 98 | 18.30 | 15° 0' | 76.45 | 8833 71 | 22.50 |
| 14 | 93.72 | 9718 14 | 18.35 | 10 | 75.61 | 8785 80 | 22.75 |
| 16 | 93.46 | 9706 33 | 18.40 | 20 | 74.79 | 8738 40 | 23.00 |
| 18 | 93.21 | 9694 56 | 18.45 | 30 | 73.99 | 8691 52 | 23.25 |
| | | | | 40 | 73.20 | 8645 14 | 23.50 |
| | | | | 50 | 72.43 | 8599 26 | 23.75 |
| 20 | 92.96 | 9682 82 | 18.50 | | | | |
| 22 | 92.71 | 9671 11 | 18.55 | 16° 0' | 71.68 | 8553 85 | 24.00 |
| 24 | 92.46 | 9659 43 | 18.60 | 10 | 70.94 | 8508 92 | 24.25 |
| 24 | 92.21 | 9647 78 | 18.65 | 20 | 70.22 | 8464 45 | 24.50 |
| 28 | 91.96 | 9636 16 | 18.70 | 30 | 69.51 | 8420 44 | 24.75 |
| 30 | 91.72 | 9624 58 | 18.75 | 40 | 68.82 | 8376 87 | 25.00 |
| 32 | 91.47 | 9613 03 | 18.80 | 50 | 68.14 | 8333 73 | 25.25 |
| 34 | 91.23 | 9601 50 | 18.85 | 17° 0' | 67.47 | 8291 02 | 25.50 |
| 36 | 90.99 | 9590 01 | 18.90 | 10 | 66.81 | 8248 73 | 25.75 |
| 38 | 90.75 | 9578 55 | 18.95 | 20 | 66.17 | 8206 85 | 26.00 |
| | | | | 30 | 65.54 | 8165 37 | 26.25 |
| 40 | 90.51 | 9567 11 | 19.00 | 40 | 64.93 | 8124 28 | 26.50 |
| 42 | 90.28 | 9555 71 | 19.05 | 50 | 64.32 | 8083 58 | 26.75 |
| 44 | 90.04 | 9544 34 | 19.10 | | | | |
| 46 | 89.80 | 9533 00 | 19.15 | 18° 0' | 63.73 | 8043 27 | 27.00 |
| 48 | 89.57 | 9521 68 | 19.20 | 10 | 63.14 | 8003 32 | 27.25 |
| 50 | 89.34 | 9510 40 | 19.25 | 20 | 62.57 | 7963 74 | 27.50 |
| 52 | 89.11 | 9499 15 | 19.30 | 30 | 62.01 | 7924 53 | 27.75 |
| 54 | 88.88 | 9487 92 | 19.35 | 40 | 61.46 | 7885 66 | 28.00 |
| 56 | 88.65 | 9476 73 | 19.40 | 50 | 60.91 | 7847 14 | 28.25 |
| 58 | 88.42 | 9465 56 | 19.45 | 19° 0' | 60.38 | 7808 97 | 28.50 |
| 13° 0' | 88.19 | 9454 42 | 19.50 | 10 | 59.86 | 7771 12 | 28.75 |
| 2 | 87.97 | 9443 31 | 19.55 | 20 | 59.34 | 7733 61 | 29.00 |
| 4 | 87.75 | 9432 23 | 19.60 | 30 | 58.84 | 7696 42 | 29.25 |
| 6 | 87.52 | 9421 18 | 19.65 | 40 | 58.34 | 7659 55 | 29.50 |
| 8 | 87.30 | 9410 15 | 19.70 | 50 | 57.85 | 7622 99 | 29.75 |
| 10 | 87.08 | 9399 16 | 19.75 | | | | |
| 12 | 86.86 | 9388 19 | 19.80 | 20° 0' | 57.37 | 7586 74 | 30.00 |
| 14 | 86.64 | 9377 25 | 19.85 | 10 | 56.90 | 7550 79 | 30.25 |
| 16 | 86.42 | 9366 33 | 19.90 | 20 | 56.43 | 7515 14 | 30.50 |
| 18 | 86.21 | 9355 45 | 19.95 | 30 | 55.97 | 7479 78 | 30.75 |
| | | | | 40 | 55.52 | 7444 71 | 31.00 |
| 20 | 85.99 | 9344 59 | 20.00 | 50 | 55.08 | 7409 92 | 31.25 |
| 22 | 85.78 | 9333 76 | 20.05 | 21° 0' | 54.64 | 7375 41 | 31.50 |
| 24 | 85.56 | 9322 95 | 20.10 | 10 | 54.21 | 7341 18 | 31.75 |
| 26 | 85.35 | 9312 18 | 20.15 | 20 | 53.79 | 7307 21 | 32.00 |
| 28 | 85.14 | 9301 42 | 20.20 | 30 | 53.38 | 7278 51 | 32.25 |
| 30 | 84.93 | 9290 70 | 20.25 | 40 | 52.97 | 7240 08 | 32.50 |
| 32 | 84.72 | 9280 00 | 20.30 | 50 | 52.56 | 7206 90 | 32.75 |
| 34 | 84.51 | 9269 33 | 20.35 | 22° 0' | 52.17 | 7173 97 | 33.00 |
| 36 | 84.31 | 9258 69 | 20.40 | 10 | 51.78 | 7141 30 | 33.25 |
| 38 | 84.10 | 9248 07 | 20.45 | 20 | 51.39 | 7108 87 | 33.50 |
| | | | | | | | |
| 40 | 83.90 | 9237 47 | 20.50 | 30 | 51.01 | 7076 68 | 33.75 |
| 42 | 83.69 | 9226 91 | 20.55 | 40 | 50.64 | 7044 73 | 34.00 |
| 44 | 83.49 | 9216 37 | 20.60 | 50 | 50.27 | 7013 02 | 34.25 |
| 46 | 83.29 | 9205 85 | 20.65 | 23° 0' | 49.91 | 6981 54 | 34.50 |
| 48 | 83.09 | 9195 36 | 20.70 | 10 | 49.55 | 6950 29 | 34.75 |
| 50 | 82.89 | 9184 89 | 20.75 | 20 | 49.20 | 6919 26 | 35.00 |
| 52 | 82.69 | 9174 46 | 20.80 | 30 | 48.85 | 6888 46 | 35.25 |
| 54 | 82.49 | 9164 04 | 20.85 | 40 | 48.51 | 6857 88 | 35.50 |
| 56 | 82.29 | 9153 65 | 20.90 | 50 | 48.17 | 6827 51 | 35.75 |
| 58 | 82.10 | 9143 29 | 20.95 | 24° 0' | 47.83 | 6797 35 | 36.00 |

* Curvas de menos de 100 m de radio deben localizarse por medias cadenas o cuerdas de 10 m

TABLA III

Tangentes y externas a curvas de grado 1

| Angulo | Tang. | Externa | Angulo | Tang. | Externa | Angulo | Tang. | Externa |
|--------|-------|---------|--------|-------|---------|--------|-------|---------|
| 1° | 10.00 | .044 | 11° | 110.3 | 5.30 | 21° | 212.4 | 19.52 |
| 10 | 11.67 | .059 | 10' | 112.0 | 5.46 | 10' | 214.1 | 19.83 |
| 20 | 13.33 | .078 | 20 | 113.7 | 5.63 | 20 | 215.8 | 20.15 |
| 30 | 15.00 | .098 | 30 | 115.4 | 5.79 | 30 | 217.6 | 20.47 |
| 40 | 16.67 | .121 | 40 | 117.1 | 5.96 | 40 | 219.3 | 20.79 |
| 50 | 18.34 | .147 | 50 | 118.8 | 6.14 | 50 | 221.0 | 21.12 |
| 2 | 20.00 | .175 | 12 | 120.4 | 6.31 | 22 | 222.7 | 21.45 |
| 10 | 21.67 | .205 | 10 | 122.1 | 6.49 | 10 | 224.5 | 21.78 |
| 20 | 23.34 | .238 | 20 | 123.8 | 6.67 | 20 | 226.2 | 22.11 |
| 30 | 25.00 | .273 | 30 | 125.5 | 6.85 | 30 | 227.9 | 22.45 |
| 40 | 26.67 | .310 | 40 | 127.2 | 7.04 | 40 | 229.7 | 22.79 |
| 50 | 28.34 | .350 | 50 | 128.9 | 7.22 | 50 | 231.4 | 23.13 |
| 3 | 30.01 | .393 | 13 | 130.6 | 7.41 | 23 | 233.1 | 23.48 |
| 10 | 31.68 | .438 | 10 | 132.2 | 7.61 | 10 | 234.9 | 23.82 |
| 20 | 33.34 | .485 | 20 | 133.9 | 7.80 | 20 | 236.6 | 24.17 |
| 30 | 35.01 | .535 | 30 | 135.6 | 8.00 | 30 | 238.4 | 24.53 |
| 40 | 36.68 | .587 | 40 | 137.3 | 8.20 | 40 | 240.1 | 24.88 |
| 50 | 38.35 | .641 | 50 | 139.0 | 8.40 | 50 | 241.8 | 25.24 |
| 4 | 40.02 | .698 | 14 | 140.7 | 8.61 | 24 | 243.6 | 25.60 |
| 10 | 41.69 | .758 | 10 | 142.4 | 8.81 | 10 | 245.3 | 25.96 |
| 20 | 43.35 | .820 | 20 | 144.1 | 9.02 | 20 | 247.1 | 26.33 |
| 30 | 45.02 | .884 | 30 | 145.8 | 9.23 | 30 | 248.8 | 26.70 |
| 40 | 46.69 | .951 | 40 | 147.5 | 9.45 | 40 | 250.6 | 27.07 |
| 50 | 48.36 | 1.02 | 50 | 149.2 | 9.67 | 50 | 252.3 | 27.45 |
| 5 | 50.03 | 1.09 | 15 | 150.9 | 8.89 | 25 | 254.0 | 27.82 |
| 10 | 51.70 | 1.17 | 10 | 152.6 | 10.11 | 10 | 255.8 | 28.20 |
| 20 | 53.37 | 1.24 | 20 | 154.3 | 10.34 | 20 | 257.5 | 28.59 |
| 30 | 55.04 | 1.32 | 30 | 155.9 | 10.56 | 30 | 259.3 | 28.97 |
| 40 | 56.71 | 1.40 | 40 | 157.6 | 10.79 | 40 | 261.1 | 29.36 |
| 50 | 58.38 | 1.49 | 50 | 159.3 | 11.03 | 50 | 262.8 | 29.75 |
| 6 | 60.06 | 1.57 | 16 | 161.0 | 11.26 | 26 | 264.6 | 30.14 |
| 10 | 61.73 | 1.66 | 10 | 162.7 | 11.50 | 10 | 266.3 | 30.54 |
| 20 | 63.40 | 1.75 | 20 | 164.4 | 11.74 | 20 | 268.1 | 30.94 |
| 30 | 65.07 | 1.85 | 30 | 166.1 | 11.98 | 30 | 269.8 | 31.34 |
| 40 | 66.74 | 1.94 | 40 | 167.8 | 12.23 | 40 | 271.6 | 31.74 |
| 50 | 68.42 | 2.04 | 50 | 169.6 | 12.48 | 50 | 273.4 | 32.15 |
| 7 | 70.09 | 2.14 | 17 | 171.3 | 12.73 | 27 | 275.1 | 32.56 |
| 10 | 71.76 | 2.24 | 10 | 173.0 | 12.98 | 10 | 276.9 | 32.97 |
| 20 | 73.43 | 2.35 | 20 | 174.7 | 13.24 | 20 | 278.6 | 33.39 |
| 30 | 75.11 | 2.46 | 30 | 176.4 | 13.49 | 30 | 280.4 | 33.81 |
| 40 | 76.78 | 2.57 | 40 | 178.1 | 13.75 | 40 | 282.2 | 34.23 |
| 50 | 78.46 | 2.68 | 50 | 179.8 | 14.02 | 50 | 283.9 | 34.65 |
| 8 | 80.13 | 2.80 | 18 | 181.5 | 14.28 | 28 | 285.7 | 35.08 |
| 10 | 81.81 | 2.92 | 10 | 183.2 | 14.55 | 10 | 287.5 | 35.51 |
| 20 | 83.48 | 3.04 | 20 | 184.9 | 14.82 | 20 | 289.3 | 35.94 |
| 30 | 85.16 | 3.16 | 30 | 186.6 | 15.10 | 30 | 291.0 | 36.38 |
| 40 | 86.83 | 3.29 | 40 | 188.3 | 15.37 | 40 | 292.8 | 36.82 |
| 50 | 88.51 | 3.41 | 50 | 190.0 | 15.65 | 50 | 294.6 | 37.26 |
| 9 | 90.19 | 3.54 | 19 | 191.8 | 15.93 | 29 | 296.4 | 37.70 |
| 10 | 91.86 | 3.68 | 10 | 193.5 | 16.22 | 10 | 298.1 | 38.15 |
| 20 | 93.54 | 3.81 | 20 | 195.2 | 16.50 | 20 | 299.9 | 38.60 |
| 30 | 95.22 | 3.95 | 30 | 196.9 | 16.79 | 30 | 301.7 | 39.05 |
| 40 | 96.90 | 4.09 | 40 | 198.6 | 17.09 | 40 | 303.5 | 39.51 |
| 50 | 98.58 | 4.23 | 50 | 200.3 | 17.38 | 50 | 305.3 | 39.96 |
| 10 | 100.3 | 4.38 | 20 | 202.1 | 17.68 | 30 | 307.1 | 40.42 |
| 10 | 101.9 | 4.52 | 10 | 203.8 | 17.98 | 10 | 308.8 | 40.89 |
| 20 | 103.6 | 4.67 | 20 | 205.5 | 18.28 | 20 | 310.6 | 41.35 |
| 30 | 105.3 | 4.83 | 30 | 207.2 | 18.58 | 30 | 312.4 | 41.82 |
| 40 | 107.0 | 4.98 | 40 | 208.9 | 18.89 | 40 | 314.2 | 42.30 |
| 50 | 108.7 | 5.14 | 50 | 210.7 | 19.20 | 50 | 316.0 | 42.77 |

TABLA III

Tangentes y externas a curvas de grado 1

| Angulo | Tang. | Externa | Angulo | Tang. | Externa | Angulo | Tang. | Externa |
|--------|-------|---------|--------|-------|---------|--------|-------|---------|
| 31° | 317.8 | 43.25 | 41° | 428.4 | 77.48 | 51° | 546.6 | 123.7 |
| 10' | 319.6 | 43.73 | 10' | 430.3 | 78.14 | 10' | 548.6 | 124.6 |
| 20 | 321.4 | 44.22 | 20 | 432.2 | 78.80 | 20 | 550.7 | 125.4 |
| 30 | 323.2 | 44.70 | 30 | 434.2 | 79.49 | 30 | 552.7 | 126.3 |
| 40 | 325.0 | 45.19 | 40 | 436.1 | 80.16 | 40 | 554.8 | 127.2 |
| 50 | 326.8 | 45.68 | 50 | 438.0 | 80.84 | 50 | 556.8 | 128.1 |
| 32 | 328.6 | 46.18 | 42 | 439.9 | 81.53 | 52 | 558.9 | 129.0 |
| 10 | 330.4 | 46.68 | 10 | 411.8 | 82.21 | 10 | 561.0 | 129.9 |
| 20 | 332.2 | 47.18 | 20 | 443.7 | 82.90 | 20 | 563.0 | 130.8 |
| 30 | 334.0 | 47.69 | 30 | 445.6 | 83.60 | 30 | 565.1 | 131.8 |
| 40 | 335.8 | 48.19 | 40 | 447.5 | 84.30 | 40 | 567.2 | 132.7 |
| 50 | 337.6 | 48.70 | 50 | 449.5 | 85.00 | 50 | 569.3 | 133.6 |
| 33 | 339.4 | 49.22 | 43 | 451.4 | 85.70 | 53 | 571.3 | 134.5 |
| 10 | 341.3 | 49.73 | 10 | 453.3 | 86.11 | 10 | 573.4 | 135.5 |
| 20 | 343.1 | 50.25 | 20 | 455.2 | 87.12 | 20 | 575.5 | 136.4 |
| 30 | 344.9 | 50.77 | 30 | 457.2 | 87.83 | 30 | 577.6 | 137.3 |
| 40 | 346.7 | 51.30 | 40 | 459.1 | 88.55 | 40 | 579.7 | 138.3 |
| 50 | 348.5 | 51.83 | 50 | 461.0 | 89.27 | 50 | 581.8 | 139.2 |
| 34 | 350.3 | 52.36 | 44 | 463.0 | 90.00 | 54 | 583.9 | 140.2 |
| 10 | 352.2 | 52.89 | 10 | 464.9 | 90.72 | 10 | 586.0 | 141.1 |
| 20 | 354.0 | 53.43 | 20 | 466.9 | 91.45 | 20 | 588.1 | 142.1 |
| 30 | 355.8 | 53.97 | 30 | 468.8 | 92.19 | 30 | 590.2 | 143.1 |
| 40 | 357.6 | 54.52 | 40 | 470.8 | 92.93 | 40 | 592.3 | 144.0 |
| 50 | 359.5 | 55.06 | 50 | 472.7 | 93.67 | 50 | 594.4 | 145.0 |
| 35 | 361.3 | 55.61 | 45 | 474.7 | 94.42 | 55 | 596.5 | 146.0 |
| 10 | 363.1 | 56.16 | 10 | 476.6 | 95.16 | 10 | 598.7 | 146.9 |
| 20 | 365.0 | 56.72 | 20 | 478.6 | 95.92 | 20 | 600.8 | 147.9 |
| 30 | 366.8 | 57.28 | 30 | 480.5 | 96.67 | 30 | 602.9 | 148.9 |
| 40 | 368.7 | 57.84 | 40 | 482.5 | 97.43 | 40 | 605.0 | 149.9 |
| 50 | 370.5 | 58.40 | 50 | 484.5 | 98.20 | 50 | 607.2 | 150.9 |
| 36 | 372.3 | 58.97 | 46 | 486.4 | 98.96 | 56 | 609.3 | 151.9 |
| 10 | 374.2 | 59.54 | 10 | 488.4 | 99.73 | 10 | 611.4 | 152.9 |
| 20 | 376.0 | 60.12 | 20 | 490.4 | 100.5 | 20 | 613.6 | 153.9 |
| 30 | 377.9 | 60.69 | 30 | 492.3 | 101.3 | 30 | 615.7 | 154.9 |
| 40 | 379.7 | 61.27 | 40 | 494.3 | 102.1 | 40 | 617.9 | 155.0 |
| 50 | 381.6 | 61.86 | 50 | 496.3 | 102.8 | 50 | 620.0 | 157.0 |
| 37 | 383.4 | 62.44 | 47 | 498.3 | 103.6 | 57 | 622.2 | 158.0 |
| 10 | 385.3 | 63.03 | 10 | 500.2 | 104.4 | 10 | 624.3 | 159.0 |
| 20 | 387.1 | 63.63 | 20 | 502.2 | 105.2 | 20 | 626.5 | 160.1 |
| 30 | 389.0 | 64.22 | 30 | 504.2 | 106.0 | 30 | 628.7 | 161.1 |
| 40 | 390.9 | 64.82 | 40 | 506.2 | 106.8 | 40 | 630.8 | 162.2 |
| 50 | 392.7 | 65.42 | 50 | 508.2 | 107.6 | 50 | 633.0 | 163.2 |
| 38 | 394.6 | 66.03 | 48 | 510.2 | 108.4 | 58 | 635.2 | 164.3 |
| 10 | 396.4 | 66.64 | 10 | 512.2 | 109.3 | 10 | 637.4 | 165.3 |
| 20 | 398.3 | 67.25 | 20 | 514.2 | 110.1 | 20 | 639.6 | 166.4 |
| 30 | 400.2 | 67.86 | 30 | 516.2 | 110.9 | 30 | 641.8 | 167.5 |
| 40 | 402.0 | 68.48 | 40 | 518.2 | 111.7 | 40 | 643.9 | 168.5 |
| 50 | 403.9 | 69.10 | 50 | 520.2 | 112.5 | 50 | 646.1 | 169.6 |
| 39 | 405.8 | 69.73 | 49 | 522.2 | 113.4 | 59 | 648.3 | 170.7 |
| 10 | 407.7 | 70.36 | 10 | 524.2 | 114.2 | 10 | 650.5 | 171.8 |
| 20 | 409.6 | 70.99 | 20 | 526.3 | 115.1 | 20 | 652.7 | 172.9 |
| 30 | 411.4 | 71.62 | 30 | 528.3 | 115.9 | 30 | 655.0 | 174.0 |
| 40 | 413.3 | 72.26 | 40 | 530.3 | 116.8 | 40 | 657.2 | 175.1 |
| 50 | 415.2 | 72.90 | 50 | 532.3 | 117.6 | 50 | 659.4 | 176.2 |
| 40 | 417.1 | 73.54 | 50 | 534.4 | 118.5 | 60 | 661.6 | 177.3 |
| 10 | 419.0 | 74.19 | 10 | 536.4 | 119.3 | 10 | 663.8 | 178.4 |
| 20 | 420.9 | 74.84 | 20 | 538.4 | 120.2 | 20 | 666.1 | 179.5 |
| 30 | 422.8 | 75.49 | 30 | 540.5 | 121.0 | 30 | 668.3 | 180.6 |
| 40 | 424.7 | 76.15 | 40 | 542.5 | 121.9 | 40 | 670.5 | 181.8 |
| 50 | 426.5 | 76.81 | 50 | 544.5 | 122.8 | 50 | 672.8 | 182.9 |

TABLA III

Tangentes y externas a curvas de grado 1

| Angulo | Tang. | Externa | Angulo | Tang. | Externa | Angulo | Tang. | Externa |
|--------|-------|---------|--------|-------|---------|--------|--------|---------|
| 61° | 675.0 | 184.0 | 71° | 817.4 | 261.6 | 81° | 978.7 | 361.1 |
| 10' | 677.3 | 185.2 | 10' | 819.9 | 263.1 | 10' | 981.6 | 362.9 |
| 20 | 679.5 | 186.3 | 20 | 822.4 | 264.6 | 20 | 984.5 | 364.8 |
| 30 | 681.8 | 187.5 | 30 | 825.0 | 266.1 | 30 | 987.4 | 366.7 |
| 40 | 684.0 | 188.6 | 40 | 827.5 | 267.5 | 40 | 990.3 | 368.6 |
| 50 | 686.3 | 189.8 | 50 | 830.0 | 269.0 | 50 | 993.5 | 370.5 |
| 62 | 688.5 | 190.9 | 72 | 832.6 | 270.5 | 82 | 996.1 | 372.4 |
| 10 | 690.8 | 192.1 | 10 | 835.1 | 272.0 | 10 | 999.1 | 374.4 |
| 20 | 693.1 | 193.3 | 20 | 837.7 | 273.5 | 20 | 1002.0 | 376.3 |
| 30 | 695.4 | 194.5 | 30 | 840.2 | 275.0 | 30 | 1005.0 | 378.2 |
| 40 | 697.7 | 195.7 | 40 | 842.8 | 276.6 | 40 | 1007.9 | 380.2 |
| 50 | 699.9 | 196.9 | 50 | 845.4 | 278.1 | 50 | 1010.9 | 382.1 |
| 63 | 702.2 | 198.0 | 73 | 847.9 | 279.6 | 83 | 1013.8 | 384.1 |
| 10 | 704.5 | 199.3 | 10 | 850.5 | 281.1 | 10 | 1016.8 | 386.1 |
| 20 | 706.8 | 200.5 | 20 | 853.1 | 282.7 | 20 | 1019.8 | 388.1 |
| 30 | 709.1 | 201.7 | 30 | 855.7 | 284.2 | 30 | 1022.8 | 390.1 |
| 40 | 711.4 | 202.9 | 40 | 858.3 | 285.8 | 40 | 1025.8 | 392.0 |
| 50 | 713.7 | 204.1 | 50 | 860.9 | 287.4 | 50 | 1028.8 | 394.1 |
| 64 | 716.1 | 205.3 | 74 | 863.5 | 288.9 | 84 | 1031.8 | 396.1 |
| 10 | 718.4 | 206.6 | 10 | 866.1 | 290.5 | 10 | 1034.8 | 398.1 |
| 20 | 720.7 | 207.8 | 20 | 868.8 | 292.1 | 20 | 1037.9 | 400.1 |
| 30 | 723.0 | 209.0 | 30 | 871.4 | 293.7 | 30 | 1040.9 | 402.2 |
| 40 | 725.4 | 210.3 | 40 | 874.0 | 295.3 | 40 | 1043.9 | 404.2 |
| 50 | 727.7 | 211.5 | 50 | 876.7 | 296.9 | 50 | 1047.0 | 406.3 |
| 65 | 730.0 | 212.8 | 75 | 879.3 | 298.5 | 85 | 1050.1 | 408.3 |
| 10 | 732.4 | 214.0 | 10 | 882.0 | 300.1 | 10 | 1053.1 | 410.4 |
| 20 | 734.7 | 215.3 | 20 | 884.6 | 301.7 | 20 | 1056.2 | 412.5 |
| 30 | 737.1 | 216.6 | 30 | 887.3 | 303.3 | 30 | 1059.3 | 414.6 |
| 40 | 739.4 | 217.9 | 40 | 889.9 | 305.0 | 40 | 1062.4 | 416.7 |
| 50 | 741.8 | 219.1 | 50 | 892.6 | 306.6 | 50 | 1065.5 | 418.8 |
| 66 | 744.2 | 220.4 | 76 | 895.3 | 308.3 | 86 | 1068.6 | 420.9 |
| 10 | 746.5 | 221.7 | 10 | 898.0 | 309.9 | 10 | 1071.7 | 423.1 |
| 20 | 748.9 | 223.0 | 20 | 900.7 | 311.6 | 20 | 1074.8 | 425.2 |
| 30 | 751.3 | 224.3 | 30 | 903.4 | 313.3 | 30 | 1078.0 | 427.3 |
| 40 | 753.7 | 225.6 | 40 | 906.1 | 314.9 | 40 | 1081.1 | 429.5 |
| 50 | 756.1 | 227.0 | 50 | 908.8 | 317.6 | 50 | 1084.3 | 431.7 |
| 67 | 758.5 | 228.3 | 77 | 911.5 | 318.3 | 87 | 1087.4 | 433.8 |
| 10 | 760.9 | 229.6 | 10 | 914.2 | 320.0 | 10 | 1090.6 | 436.0 |
| 20 | 763.3 | 230.9 | 20 | 917.0 | 321.7 | 20 | 1093.8 | 438.2 |
| 30 | 765.7 | 232.3 | 30 | 919.7 | 323.4 | 30 | 1097.0 | 440.4 |
| 40 | 768.1 | 233.6 | 40 | 922.4 | 325.1 | 40 | 1100.2 | 442.6 |
| 50 | 770.5 | 235.0 | 50 | 925.2 | 326.9 | 50 | 1103.4 | 444.9 |
| 68 | 772.9 | 236.3 | 78 | 928.0 | 328.6 | 88 | 1106.6 | 447.1 |
| 10 | 775.4 | 237.7 | 10 | 930.7 | 330.3 | 10 | 1109.8 | 449.3 |
| 20 | 777.8 | 239.0 | 20 | 933.5 | 332.1 | 20 | 1113.1 | 451.6 |
| 30 | 780.2 | 240.4 | 30 | 936.3 | 333.8 | 30 | 1116.3 | 453.9 |
| 40 | 782.7 | 241.8 | 40 | 939.0 | 335.6 | 40 | 1119.6 | 456.1 |
| 50 | 785.1 | 243.2 | 50 | 941.8 | 337.4 | 50 | 1123.8 | 458.4 |
| 69 | 787.6 | 244.5 | 79 | 944.6 | 339.2 | 89 | 1126.1 | 460.7 |
| 10 | 790.0 | 245.9 | 10 | 947.4 | 340.9 | 10 | 1129.4 | 463.0 |
| 20 | 792.5 | 247.3 | 20 | 950.2 | 342.7 | 20 | 1132.7 | 465.3 |
| 30 | 795.0 | 248.7 | 30 | 953.1 | 344.5 | 30 | 1136.0 | 467.6 |
| 40 | 797.4 | 250.2 | 40 | 955.9 | 346.3 | 40 | 1139.3 | 470.0 |
| 50 | 799.9 | 251.6 | 50 | 958.7 | 348.2 | 50 | 1142.6 | 472.3 |
| 70 | 802.4 | 253.0 | 80 | 961.5 | 350.0 | 90 | 1145.9 | 474.7 |
| 10 | 804.9 | 254.4 | 10 | 964.4 | 351.8 | 10 | 1149.3 | 477.0 |
| 20 | 807.4 | 255.9 | 20 | 967.2 | 353.6 | 20 | 1152.6 | 479.4 |
| 30 | 809.9 | 257.3 | 30 | 970.1 | 355.5 | 30 | 1156.0 | 481.8 |
| 40 | 812.4 | 258.7 | 40 | 973.0 | 357.3 | 40 | 1159.3 | 484.2 |
| 50 | 814.9 | 260.2 | 50 | 975.8 | 359.2 | 50 | 1162.7 | 486.6 |

TABLA III

Tangentes y externas a curvas de grado 1

| Angulo | Tang. | Externa | Angulo | Tang. | Externa | Angulo | Tang. | Externa |
|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 91° | 1166.1 | 489.0 | 101° | 1390.1 | 655.6 | 111° | 1667.3 | 877.2 |
| 10' | 1169.5 | 491.4 | 10' | 1394.3 | 658.8 | 10' | 1672.5 | 881.5 |
| 20 | 1172.9 | 493.9 | 20 | 1398.4 | 662.0 | 20 | 1677.8 | 885.8 |
| 30 | 1176.3 | 496.3 | 30 | 1402.5 | 665.2 | 30 | 1683.0 | 890.2 |
| 40 | 1179.8 | 498.8 | 40 | 1406.7 | 668.5 | 40 | 1688.3 | 894.5 |
| 50 | 1183.2 | 501.2 | 50 | 1410.9 | 671.7 | 50 | 1693.6 | 898.9 |
| 92 | 1186.6 | 503.7 | 102 | 1415.1 | 675.0 | 112 | 1698.9 | 903.3 |
| 10 | 1190.1 | 506.2 | 10 | 1419.3 | 678.2 | 10 | 1704.3 | 907.8 |
| 20 | 1193.6 | 508.7 | 20 | 1423.6 | 681.5 | 20 | 1709.6 | 912.2 |
| 30 | 1197.1 | 511.2 | 30 | 1427.8 | 684.9 | 30 | 1715.0 | 916.7 |
| 40 | 1200.5 | 513.7 | 40 | 1432.1 | 688.2 | 40 | 1720.4 | 921.2 |
| 50 | 1204.0 | 516.3 | 50 | 1436.3 | 691.5 | 50 | 1725.9 | 925.7 |
| 93 | 1207.6 | 518.8 | 103 | 1440.6 | 694.9 | 113 | 1731.3 | 930.8 |
| 10 | 1211.1 | 521.4 | 10 | 1444.9 | 698.3 | 10 | 1736.8 | 934.8 |
| 20 | 1214.6 | 523.9 | 20 | 1449.3 | 701.6 | 20 | 1742.3 | 939.4 |
| 30 | 1218.2 | 526.5 | 30 | 1453.6 | 705.0 | 30 | 1747.8 | 944.1 |
| 40 | 1221.7 | 529.1 | 40 | 1458.0 | 708.5 | 40 | 1753.4 | 948.7 |
| 50 | 1225.3 | 531.7 | 50 | 1462.3 | 711.9 | 50 | 1759.0 | 953.4 |
| 94 | 1228.9 | 534.3 | 104 | 1466.7 | 715.4 | 114 | 1764.6 | 958.1 |
| 10 | 1232.4 | 536.9 | 10 | 1471.1 | 718.8 | 10 | 1770.2 | 962.8 |
| 20 | 1236.0 | 539.6 | 20 | 1475.6 | 722.3 | 20 | 1775.9 | 967.6 |
| 30 | 1239.7 | 542.2 | 30 | 1480.0 | 725.8 | 30 | 1781.5 | 972.3 |
| 40 | 1243.3 | 544.9 | 40 | 1484.4 | 729.4 | 40 | 1787.3 | 977.1 |
| 50 | 1246.9 | 547.6 | 50 | 1488.9 | 732.9 | 50 | 1793.0 | 982.0 |
| 95 | 1250.6 | 550.3 | 105 | 1493.4 | 736.5 | 115 | 1798.8 | 986.8 |
| 10 | 1254.2 | 553.0 | 10 | 1497.9 | 740.0 | 10 | 1804.5 | 991.7 |
| 20 | 1257.9 | 555.7 | 20 | 1502.4 | 743.6 | 20 | 1810.3 | 996.6 |
| 30 | 1261.6 | 558.4 | 30 | 1507.0 | 747.2 | 30 | 1816.2 | 1001.6 |
| 40 | 1265.3 | 561.1 | 40 | 1511.5 | 750.9 | 40 | 1822.1 | 1006.5 |
| 50 | 1269.0 | 563.9 | 50 | 1516.1 | 754.5 | 50 | 1828.0 | 1011.5 |
| 96 | 1272.7 | 566.6 | 106 | 1520.7 | 758.2 | 116 | 1833.9 | 1016.5 |
| 10 | 1276.4 | 569.4 | 10 | 1525.3 | 761.9 | 10 | 1839.8 | 1021.6 |
| 20 | 1280.1 | 572.2 | 20 | 1529.9 | 765.6 | 20 | 1845.8 | 1026.7 |
| 30 | 1283.9 | 575.0 | 30 | 1534.6 | 769.3 | 30 | 1851.8 | 1031.8 |
| 40 | 1287.7 | 577.8 | 40 | 1539.3 | 773.0 | 40 | 1857.8 | 1036.9 |
| 50 | 1291.5 | 580.6 | 50 | 1543.9 | 776.8 | 50 | 1863.9 | 1042.1 |
| 97 | 1295.2 | 583.5 | 107 | 1548.6 | 780.6 | 117 | 1870.0 | 1047.2 |
| 10 | 1299.0 | 586.3 | 10 | 1553.4 | 784.4 | 10 | 1876.1 | 1052.5 |
| 20 | 1302.9 | 589.2 | 20 | 1558.1 | 788.2 | 20 | 1882.3 | 1057.7 |
| 30 | 1306.7 | 592.1 | 30 | 1562.9 | 792.0 | 30 | 1888.4 | 1063.0 |
| 40 | 1310.5 | 594.9 | 40 | 1567.6 | 795.9 | 40 | 1894.6 | 1068.3 |
| 50 | 1314.4 | 597.8 | 50 | 1572.4 | 799.7 | 50 | 1900.9 | 1073.6 |
| 98 | 1318.2 | 600.8 | 108 | 1577.2 | 803.6 | 118 | 1907.1 | 1079.0 |
| 10 | 1322.1 | 603.7 | 10 | 1582.1 | 807.6 | 10 | 1913.4 | 1084.4 |
| 20 | 1326.0 | 606.6 | 20 | 1586.9 | 811.5 | 20 | 1919.8 | 1089.8 |
| 30 | 1329.9 | 609.6 | 30 | 1591.8 | 815.4 | 30 | 1926.1 | 1095.3 |
| 40 | 1333.8 | 612.6 | 40 | 1596.7 | 819.4 | 40 | 1932.5 | 1100.8 |
| 50 | 1337.8 | 615.5 | 50 | 1601.6 | 823.4 | 50 | 1938.9 | 1106.3 |
| 99 | 1341.7 | 618.5 | 109 | 1606.5 | 827.4 | 119 | 1945.4 | 1111.9 |
| 10 | 1345.7 | 621.5 | 10 | 1611.5 | 831.5 | 10 | 1951.9 | 1117.5 |
| 20 | 1349.6 | 624.6 | 20 | 1616.5 | 835.5 | 20 | 1958.4 | 1123.1 |
| 30 | 1353.6 | 627.6 | 30 | 1621.6 | 839.6 | 30 | 1965.0 | 1128.8 |
| 40 | 1357.6 | 630.7 | 40 | 1626.5 | 843.7 | 40 | 1971.5 | 1134.5 |
| 50 | 1361.6 | 633.7 | 50 | 1631.5 | 847.8 | 50 | 1978.2 | 1140.2 |
| 100 | 1365.7 | 636.8 | 110 | 1636.6 | 851.9 | 120 | 1984.8 | 1145.9 |
| 10 | 1369.7 | 639.9 | 10 | 1641.6 | 856.1 | 10 | 1991.5 | 1151.7 |
| 20 | 1373.8 | 643.0 | 20 | 1646.7 | 860.3 | 20 | 1998.2 | 1157.5 |
| 30 | 1377.8 | 646.2 | 30 | 1651.9 | 864.5 | 30 | 2005.0 | 1163.4 |
| 40 | 1381.9 | 649.3 | 40 | 1657.0 | 868.7 | 40 | 2011.8 | 1169.3 |
| 50 | 1386.0 | 652.5 | 50 | 1662.2 | 873.0 | 50 | 2018.6 | 1175.2 |

TABLA III

Tangentes y externas a curvas de grado 1

| Angulo | Tang. | Externa | Angulo | Tang. | Externa | Angulo | Tang. | Externa |
|--------|--------|---------|--------|--------|---------|--------|--------|---------|
| 121° | 2025.4 | 1181.2 | 125° | 2201.3 | 1335.8 | 129° | 2402.5 | 1515.9 |
| 10' | 2032.3 | 1187.2 | 10' | 2209.2 | 1342.7 | 10' | 2411.5 | 1524.0 |
| 20 | 2039.2 | 1193.2 | 20 | 2217.0 | 1349.7 | 20 | 2420.6 | 1532.2 |
| 30 | 2046.2 | 1199.3 | 30 | 2225.0 | 1356.8 | 30 | 2429.7 | 1540.5 |
| 40 | 2053.2 | 1205.4 | 40 | 2232.9 | 1363.9 | 40 | 2438.9 | 1548.8 |
| 50 | 2060.2 | 1211.6 | 50 | 2241.0 | 1371.0 | 50 | 2448.2 | 1557.1 |
| 122 | 2067.3 | 1217.7 | 126 | 2249.0 | 1378.2 | 130 | 2457.5 | 1565.6 |
| 10 | 2074.4 | 1224.0 | 10 | 2257.1 | 1385.4 | 10 | 2466.8 | 1574.0 |
| 20 | 2081.6 | 1230.2 | 20 | 2265.3 | 1392.7 | 20 | 2476.2 | 1582.6 |
| 30 | 2088.8 | 1236.5 | 30 | 2273.5 | 1400.0 | 30 | 2485.7 | 1591.2 |
| 40 | 2096.0 | 1242.9 | 40 | 2281.7 | 1407.4 | 40 | 2495.3 | 1599.9 |
| 50 | 2103.2 | 1249.2 | 50 | 2290.0 | 1414.8 | 50 | 2504.9 | 1603.6 |
| 123 | 2110.5 | 1255.6 | 127 | 2298.4 | 1422.3 | 131 | 2514.5 | 1617.4 |
| 10 | 2117.9 | 1262.1 | 10 | 2306.8 | 1429.8 | 10 | 2524.2 | 1626.2 |
| 20 | 2125.3 | 1268.6 | 20 | 2315.2 | 1437.4 | 20 | 2534.0 | 1635.2 |
| 30 | 2132.7 | 1275.1 | 30 | 2323.7 | 1445.0 | 30 | 2543.9 | 1644.1 |
| 40 | 2140.1 | 1281.7 | 40 | 2332.3 | 1452.7 | 40 | 2553.8 | 1653.2 |
| 50 | 2147.6 | 1288.3 | 50 | 2340.9 | 1460.4 | 50 | 2563.8 | 1662.3 |
| 124 | 2155.2 | 1295.0 | 128 | 2349.5 | 1468.1 | 132 | 2573.8 | 1671.5 |
| 10 | 2162.8 | 1301.7 | 10 | 2358.2 | 1476.0 | 10 | 2583.9 | 1680.7 |
| 20 | 2170.4 | 1308.4 | 20 | 2367.0 | 1483.8 | 20 | 2594.1 | 1690.0 |
| 30 | 2178.1 | 1315.2 | 30 | 2375.8 | 1491.8 | 30 | 2604.3 | 1699.4 |
| 40 | 2185.8 | 1322.0 | 40 | 2384.6 | 1499.7 | 40 | 2614.6 | 1708.8 |
| 50 | 2193.5 | 1328.9 | 50 | 2393.5 | 1507.8 | 50 | 2625.0 | 1718.3 |

Correcciones para las Tangentes, añada

| Angulo | 3° Cur. | 5° Cur. | 7° Cur. | 9° Cur. | 11° Cur. | 12° Cur. | 14° Cur. | 16° Cur. | 18° Cur. | 20° Cur. | 22° Cur. | 24° Cur. |
|--------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 10° | .00 | .01 | .01 | .01 | .01 | .00 | .00 | .00 | .01 | .01 | .01 | .01 |
| 20° | .01 | .01 | .02 | .02 | .03 | .01 | .01 | .01 | .01 | .01 | .01 | .02 |
| 30° | .01 | .02 | .03 | .03 | .04 | .01 | .01 | .02 | .02 | .02 | .02 | .02 |
| 40° | .01 | .03 | .04 | .05 | .06 | .02 | .02 | .02 | .02 | .03 | .03 | .03 |
| 50° | .02 | .03 | .05 | .06 | .07 | .02 | .02 | .03 | .03 | .03 | .04 | .04 |
| 60° | .02 | .04 | .06 | .08 | .09 | .02 | .03 | .03 | .04 | .04 | .05 | .05 |
| 70° | .03 | .05 | .07 | .09 | .11 | .03 | .03 | .04 | .05 | .05 | .06 | .06 |
| 80° | .03 | .06 | .08 | .11 | .13 | .04 | .04 | .05 | .05 | .06 | .07 | .07 |
| 90° | .04 | .07 | .10 | .13 | .16 | .04 | .05 | .06 | .06 | .07 | .08 | .09 |
| 100° | .05 | .09 | .12 | .15 | .19 | .05 | .06 | .07 | .08 | .09 | .10 | .10 |
| 110° | .06 | .10 | .14 | .19 | .23 | .06 | .07 | .08 | .09 | .10 | .11 | .12 |
| 120° | .07 | .12 | .17 | .23 | .28 | .07 | .09 | .10 | .11 | .12 | .14 | .15 |
| 130° | .08 | .15 | .21 | .28 | .34 | .09 | .11 | .12 | .14 | .15 | .17 | .19 |

Correcciones para Externas. Añada

| Angulo | 3° Cur. | 5° Cur. | 7° Cur. | 9° Cur. | 11° Cur. | 12° Cur. | 14° Cur. | 16° Cur. | 18° Cur. | 20° Cur. | 22° Cur. | 24° Cur. |
|--------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 20° | .001 | .001 | .002 | .002 | .002 | .001 | .001 | .001 | .001 | .001 | .001 | .001 |
| 30° | .001 | .002 | .004 | .005 | .006 | .001 | .002 | .002 | .002 | .003 | .003 | .003 |
| 40° | .002 | .004 | .006 | .008 | .010 | .003 | .003 | .004 | .004 | .005 | .005 | .006 |
| 50° | .004 | .007 | .010 | .013 | .016 | .001 | .005 | .006 | .007 | .007 | .008 | .009 |
| 60° | .006 | .011 | .015 | .020 | .025 | .006 | .008 | .009 | .010 | .011 | .012 | .013 |
| 70° | .01 | .02 | .02 | .03 | .04 | .01 | .01 | .01 | .01 | .02 | .02 | .02 |
| 80° | .01 | .02 | .03 | .04 | .05 | .01 | .02 | .02 | .02 | .02 | .02 | .03 |
| 90° | .02 | .03 | .04 | .05 | .07 | .02 | .02 | .02 | .03 | .03 | .03 | .04 |
| 100° | .02 | .04 | .06 | .07 | .09 | .02 | .03 | .03 | .04 | .04 | .04 | .05 |
| 110° | .03 | .05 | .07 | .10 | .12 | .03 | .04 | .04 | .05 | .05 | .06 | .07 |
| 120° | .04 | .07 | .10 | .13 | .16 | .04 | .05 | .06 | .06 | .07 | .08 | .09 |
| 130° | .05 | .10 | .14 | .18 | .22 | .06 | .07 | .08 | .09 | .10 | .11 | .12 |

TABLA IV

Cuerdas a un radio 1, para trazo de ángulos

| Angulo | 0' | 10' | 20' | 30' | 40' | 50' | DIFERENCIAS | | | | |
|--------|-------|-------|-------|-------|-------|-------|-------------|----|----|----|-----|
| | | | | | | | 2' | 4' | 6' | 8' | 10' |
| 0° | .0000 | .0029 | .0058 | .0087 | .0116 | .0145 | 6 | 12 | 17 | 23 | 29 |
| 1° | .0175 | .0204 | .0233 | .0262 | .0291 | .0320 | | | | | |
| 2° | .0349 | .0378 | .0407 | .0436 | .0465 | .0494 | | | | | |
| 3° | .0524 | .0553 | .0582 | .0611 | .0640 | .0669 | | | | | |
| 4° | .0698 | .0727 | .0756 | .0785 | .0814 | .0843 | | | | | |
| 5° | .0872 | .0901 | .0931 | .0960 | .0989 | .1018 | | | | | |
| 6° | .1047 | .1076 | .1105 | .1134 | .1163 | .1192 | | | | | |
| 7° | .1221 | .1250 | .1279 | .1308 | .1337 | .1366 | | | | | |
| 8° | .1395 | .1424 | .1453 | .1482 | .1511 | .1540 | | | | | |
| 9° | .1569 | .1598 | .1627 | .1656 | .1685 | .1714 | | | | | |
| 10° | .1743 | .1772 | .1801 | .1830 | .1859 | .1888 | | | | | |
| 11° | .1917 | .1946 | .1975 | .2004 | .2033 | .2062 | | | | | |
| 12° | .2091 | .2119 | .2148 | .2177 | .2206 | .2235 | | | | | |
| 13° | .2264 | .2293 | .2322 | .2351 | .2380 | .2409 | | | | | |
| 14° | .2437 | .2466 | .2495 | .2524 | .2553 | .2582 | | | | | |
| 15° | .2611 | .2639 | .2668 | .2697 | .2726 | .2755 | | | | | |
| 16° | .2783 | .2812 | .2841 | .2870 | .2899 | .2927 | | | | | |
| 17° | .2956 | .2985 | .3014 | .3042 | .3071 | .3100 | | | | | |
| 18° | .3129 | .3157 | .3186 | .3215 | .3244 | .3272 | 6 | 11 | 17 | 23 | 29 |
| 19° | .3301 | .3330 | .3358 | .3387 | .3416 | .3444 | | | | | |
| 20° | .3473 | .3502 | .3530 | .3559 | .3587 | .3616 | | | | | |
| 21° | .3645 | .3673 | .3702 | .3730 | .3759 | .3788 | | | | | |
| 22° | .3816 | .3845 | .3873 | .3902 | .3930 | .3959 | | | | | |
| 23° | .3987 | .4016 | .4044 | .4073 | .4101 | .4130 | 6 | 11 | 17 | 23 | 28 |
| 24° | .4158 | .4187 | .4215 | .4244 | .4272 | .4300 | | | | | |
| 25° | .4329 | .4357 | .4386 | .4414 | .4442 | .4471 | | | | | |
| 26° | .4499 | .4527 | .4556 | .4584 | .4612 | .4641 | | | | | |
| 27° | .4669 | .4697 | .4725 | .4754 | .4782 | .4810 | | | | | |
| 28° | .4838 | .4867 | .4895 | .4923 | .4951 | .4979 | | | | | |
| 29° | .5008 | .5036 | .5064 | .5092 | .5120 | .5148 | | | | | |
| 30° | .5176 | .5204 | .5233 | .5261 | .5289 | .5317 | 6 | 11 | 17 | 22 | 28 |
| 31° | .5345 | .5373 | .5401 | .5429 | .5457 | .5485 | | | | | |
| 32° | .5513 | .5541 | .5569 | .5597 | .5625 | .5652 | | | | | |
| 33° | .5680 | .5708 | .5736 | .5764 | .5792 | .5820 | | | | | |
| 34° | .5847 | .5875 | .5903 | .5931 | .5959 | .5986 | | | | | |
| 35° | .6014 | .6042 | .6070 | .6097 | .6125 | .6153 | | | | | |
| 36° | .6180 | .6208 | .6236 | .6263 | .6291 | .6319 | | | | | |
| 37° | .6346 | .6374 | .6401 | .6429 | .6456 | .6484 | | | | | |
| 38° | .6511 | .6539 | .6566 | .6594 | .6621 | .6649 | 5 | 11 | 16 | 22 | 27 |
| 39° | .6676 | .6704 | .6731 | .6758 | .6786 | .6813 | | | | | |
| 40° | .6840 | .6868 | .6895 | .6922 | .6950 | .6977 | | | | | |
| 41° | .7004 | .7031 | .7059 | .7086 | .7113 | .7140 | | | | | |
| 42° | .7167 | .7195 | .7222 | .7249 | .7276 | .7303 | | | | | |
| 43° | .7330 | .7357 | .7384 | .7411 | .7438 | .7465 | | | | | |
| 44° | .7492 | .7519 | .7546 | .7573 | .7600 | .7627 | | | | | |

Las diferencias estan en diez milésimos del Radio

TABLA IV

Cuerdas a un radio 1, para trazo de ángulos

| Angulo | 0' | 10' | 20' | 30' | 40' | 50' | DIFERENCIAS | | | | |
|--------|--------|--------|--------|--------|--------|--------|-------------|----|----|----|-----|
| | | | | | | | 2' | 4' | 6' | 8' | 10' |
| 45° | .7654 | .7681 | .7707 | .7734 | .7761 | .7788 | 5 | 11 | 16 | 21 | 27 |
| 46° | .7815 | .7841 | .7868 | .7895 | .7922 | .7948 | | | | | |
| 47° | .7975 | .8002 | .8028 | .8055 | .8082 | .8108 | | | | | |
| 48° | .8135 | .8161 | .8188 | .8214 | .8241 | .8267 | | | | | |
| 49° | .8294 | .8320 | .8347 | .8373 | .8400 | .8426 | 5 | 11 | 16 | 21 | 26 |
| 50° | .8452 | .8479 | .8505 | .8531 | .8558 | .8584 | | | | | |
| 51° | .8610 | .8636 | .8663 | .8689 | .8715 | .8741 | 5 | 10 | 16 | 21 | 26 |
| 52° | .8767 | .8794 | .8820 | .8846 | .8872 | .8898 | | | | | |
| 53° | .8924 | .8950 | .8976 | .9002 | .9028 | .9054 | | | | | |
| 54° | .9080 | .9106 | .9132 | .9157 | .9183 | .9209 | | | | | |
| 55° | .9235 | .9261 | .9287 | .9312 | .9338 | .9364 | 5 | 10 | 15 | 21 | 26 |
| 56° | .9389 | .9415 | .9441 | .9466 | .9492 | .9518 | | | | | |
| 57° | .9543 | .9569 | .9594 | .9620 | .9645 | .9671 | 5 | 10 | 15 | 20 | 26 |
| 58° | .9696 | .9722 | .9747 | .9772 | .9798 | .9823 | 5 | 10 | 15 | 20 | 25 |
| 59° | .9848 | .9874 | .9899 | .9924 | .9950 | .9975 | | | | | |
| 60° | 1.0000 | 1.0025 | 1.0050 | 1.0075 | 1.0101 | 1.0126 | | | | | |
| 61° | 1.0151 | 1.0176 | 1.0201 | 1.0226 | 1.0251 | 1.0276 | | | | | |
| 62° | 1.0301 | 1.0326 | 1.0351 | 1.0375 | 1.0400 | 1.0425 | | | | | |
| 63° | 1.0450 | 1.0475 | 1.0500 | 1.0524 | 1.0549 | 1.0574 | | | | | |
| 64° | 1.0598 | 1.0623 | 1.0648 | 1.0672 | 1.0697 | 1.0721 | | | | | |
| 65° | 1.0746 | 1.0771 | 1.0795 | 1.0819 | 1.0844 | 1.0868 | 5 | 10 | 15 | 20 | 24 |
| 66° | 1.0893 | 1.0917 | 1.0942 | 1.0966 | 1.0990 | 1.1014 | 5 | 10 | 15 | 19 | 24 |
| 67° | 1.1039 | 1.1063 | 1.1087 | 1.1111 | 1.1136 | 1.1166 | | | | | |
| 68° | 1.1184 | 1.1208 | 1.1232 | 1.1256 | 1.1280 | 1.1304 | 5 | 10 | 14 | 19 | 24 |
| 69° | 1.1328 | 1.1352 | 1.1376 | 1.1400 | 1.1424 | 1.1448 | | | | | |
| 70° | 1.1472 | 1.1495 | 1.1519 | 1.1543 | 1.1567 | 1.1590 | | | | | |
| 71° | 1.1614 | 1.1638 | 1.1661 | 1.1685 | 1.1709 | 1.1732 | 5 | 9 | 14 | 19 | 24 |
| 72° | 1.1756 | 1.1779 | 1.1803 | 1.1826 | 1.1850 | 1.1873 | 5 | 9 | 14 | 19 | 23 |
| 73° | 1.1896 | 1.1920 | 1.1943 | 1.1966 | 1.1990 | 1.2013 | | | | | |
| 74° | 1.2036 | 1.2060 | 1.2083 | 1.2106 | 1.2129 | 1.2152 | | | | | |
| 75° | 1.2175 | 1.2198 | 1.2221 | 1.2244 | 1.2267 | 1.2290 | 5 | 9 | 14 | 18 | 23 |
| 76° | 1.2313 | 1.2336 | 1.2359 | 1.2382 | 1.2405 | 1.2428 | | | | | |
| 77° | 1.2450 | 1.2473 | 1.2496 | 1.2518 | 1.2541 | 1.2564 | | | | | |
| 78° | 1.2586 | 1.2609 | 1.2632 | 1.2654 | 1.2677 | 1.2699 | | | | | |
| 79° | 1.2722 | 1.2744 | 1.2766 | 1.2789 | 1.2811 | 1.2833 | 4 | 9 | 13 | 18 | 22 |
| 80° | 1.2856 | 1.2878 | 1.2900 | 1.2922 | 1.2945 | 1.2967 | | | | | |
| 81° | 1.2989 | 1.3011 | 1.3033 | 1.3055 | 1.3077 | 1.3099 | | | | | |
| 82° | 1.3121 | 1.3143 | 1.3165 | 1.3187 | 1.3209 | 1.3231 | 4 | 9 | 13 | 17 | 22 |
| 83° | 1.3252 | 1.3274 | 1.3296 | 1.3318 | 1.3339 | 1.3361 | | | | | |
| 84° | 1.3383 | 1.3404 | 1.3426 | 1.3447 | 1.3469 | 1.3490 | | | | | |
| 85° | 1.3512 | 1.3533 | 1.3555 | 1.3576 | 1.3597 | 1.3619 | 4 | 9 | 13 | 17 | 21 |
| 86° | 1.3640 | 1.3661 | 1.3682 | 1.3704 | 1.3725 | 1.3746 | 4 | 8 | 13 | 17 | 21 |
| 87° | 1.3767 | 1.3788 | 1.3809 | 1.3830 | 1.3851 | 1.3872 | | | | | |
| 88° | 1.3893 | 1.3914 | 1.3935 | 1.3956 | 1.3977 | 1.3997 | | | | | |
| 89° | 1.4018 | 1.4039 | 1.4060 | 1.4080 | 1.4101 | 1.4122 | 4 | 8 | 12 | 17 | 21 |

Las diferencias están en diez milésimos del Radio

Dave's Fair
- surprise

Hi Tom,

This is Bob Reitsma, the friend of Janet
from France doing ornithological field work
in the Montes Azules Biosphere Reserve of
Chiapas, Mexico. We met briefly one after-
noon during your short but sweet visit
to the Biological station here in the Reserve.
I enjoyed chatting with you too. ^{Remember?} Hope so. Time didn't allow for
^{more} a whole lot of chatting and I forgot to ask you
about how the Min. Grt. Ecosystem project was
going in Amazonia. Your role in that
project probably has diminished some since
your job switch but I'm sure you know
~~about~~ what's going on there anyway. An am-
bition of mine is to be involved in field
work in Amazonia some time and I for-
get to tap into your experience and ask
you for any names, places, etc. to get in
touch with regarding this ambition. If
you have can suggest any thing or any one,
I'd appreciate it if you could jot it down and
send it to New Hampshire along with Jan
& Anne's address. ~~At least~~ the very
least the address would be appreciated
(and is probably the most important).

Thanks tons! Again, GREAT chatting
with you and the others. It changed me up.
^{Folks can be} nice to know the more well-known folks
^{nice to know} of this world ~~are~~ ^{can be} very pleasant
as well

| | | | |
|----|---------|-----------|--------|
| 15 | 1 | March | Shade |
| 11 | Station | Chapala | Man |
| 20 | | 3 Reforma | 25 kg |
| 20 | | 11 Uema | Chant |
| 20 | | 11 Lopez | |
| 20 | | 3 Reforma | Blanca |
| 20 | | 25 | |
| 10 | | Galley | |
| 94 | | 26 | |

Point Counts AMs

| | |
|-------------|---|
| 20F | 3 |
| Cacao | 2 |
| Bald Forest | 2 |
| Forest Gap | 4 |
| Scrub | 1 |
| Forest Man | 2 |
| Scrub Man | 2 |
| Shade Man | 2 |

15 mornings
 Observers = 7 mornings 23 wks
 Sample/ak

I ~~am~~ wish for you continued sanity
 in your very demanding but extremely
 important work. Keep on keepin' on bro!
 Peace, Bob

1 APR Ed's Porchero
 0.05 TA 2/9 Sa Air cadm 1m Arroyo

